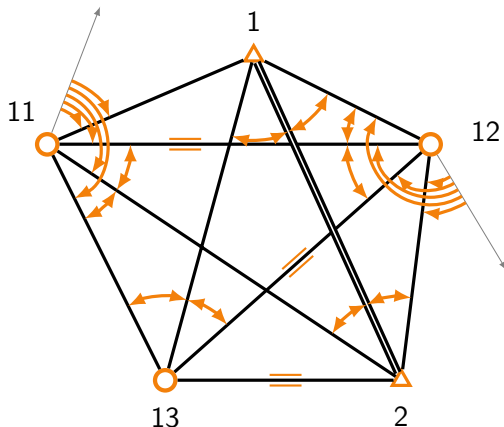


# Wyrównanie sieci kąto-liniowej



Na podstawie danych dwóch punktów osnowy i obserwacji (na kolejnych stronach dokumentu, obok szkic tylko dla wybranego zestawu) należy wyrównać sieć metodą pośredniczącą. Policzyc:

- wartości wyrównane składowych punktów wyznaczanych,
- błędy tych składowych,
- błędy położenia punktów,
- elipsy błędu średniego,
- błędy wyrównanych obserwacji,
- błąd azymutu 11–12.

Po pierwszych zajęciach należy mieć policzone współrzędne przybliżone punktów wyznaczanych oraz elementy macierzy  $A$ ,  $L$  i  $P$  odpowiadających za obserwacje co najmniej jednego typu. W skrypcie po drugich zajęciach powinny znaleźć się wszystkie obliczenia. Do sprawozdania (termin 1 tygodnia od drugich zajęć związanych z tym projektem) należy dołączyć szkic sieci i elips błędów.

## Zestaw 1: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1896,386 | 1911,814 |
| 2  | 2936,501 | 1258,840 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,814  | 0,039     |
| 2  | 11 | 1481,997 | 0,068     |
| 11 | 13 | 894,792  | 0,048     |

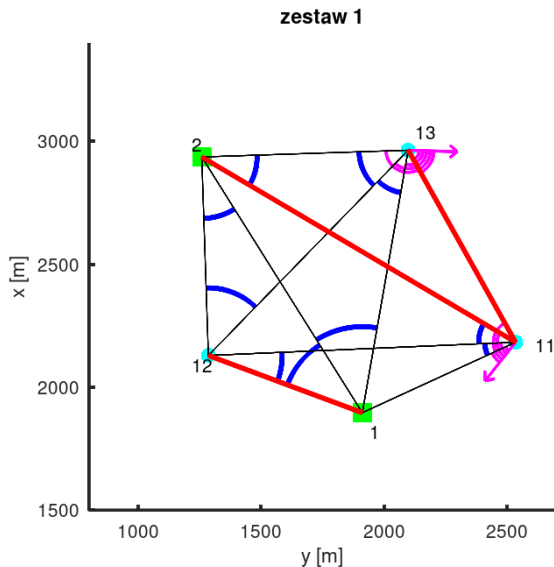
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 16,7       |
| 11 | 12 | 24,69096   | 17,9       |
| 11 | 2  | 61,38802   | 14,5       |
| 11 | 13 | 94,97012   | 15,4       |
| 11 | 1  | 399,99988  | 16,7       |
| 13 | 11 | 0,00000    | 15,7       |
| 13 | 1  | 43,47633   | 14,5       |
| 13 | 12 | 81,60056   | 13,6       |
| 13 | 2  | 130,38080  | 18,5       |
| 13 | 11 | 0,00009    | 15,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69083        | 13,6            |
| 12 | 11 | 2  | 36,69707        | 15,4            |
| 1  | 13 | 12 | 38,12392        | 13,0            |
| 12 | 13 | 2  | 48,78012        | 11,4            |
| 13 | 2  | 11 | 36,03744        | 14,8            |
| 1  | 2  | 12 | 33,56481        | 15,7            |
| 2  | 12 | 13 | 51,25833        | 18,8            |
| 11 | 12 | 1  | 25,40204        | 19,1            |
| 12 | 1  | 2  | 41,65503        | 13,6            |
| 2  | 1  | 13 | 46,69870        | 14,8            |

# Zestaw 1: poglądowy szkic sieci



## Zestaw 2: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1904,215 | 1948,237 |
| 2  | 2896,247 | 1224,299 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,800  | 0,041     |
| 1  | 13 | 1083,688 | 0,047     |
| 12 | 13 | 1164,919 | 0,061     |

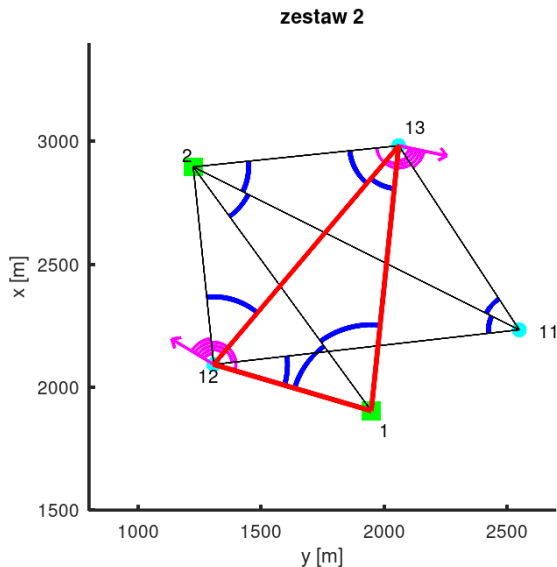
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 19,4       |
| 13 | 1  | 43,47617   | 17,0       |
| 13 | 12 | 81,60000   | 16,4       |
| 13 | 2  | 130,38096  | 13,3       |
| 13 | 11 | 0,00015    | 19,4       |
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25793   | 15,7       |
| 12 | 11 | 99,37861   | 14,2       |
| 12 | 1  | 124,78006  | 17,0       |
| 12 | 2  | 399,99981  | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69753        | 16,7            |
| 2  | 11 | 13 | 33,58235        | 19,1            |
| 1  | 13 | 12 | 38,12448        | 15,4            |
| 12 | 13 | 2  | 48,78019        | 15,1            |
| 13 | 2  | 11 | 36,03698        | 9,9             |
| 11 | 2  | 1  | 30,35963        | 12,7            |
| 2  | 12 | 13 | 51,25830        | 13,6            |
| 11 | 12 | 1  | 25,40176        | 13,6            |
| 12 | 1  | 2  | 41,65497        | 17,3            |
| 2  | 1  | 13 | 46,69840        | 16,7            |

## Zestaw 2: poglądowy szkic sieci



## Zestaw 3: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2709,627 | 2267,425 |
| 2  | 1708,324 | 1556,367 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,011  | 0,039     |
| 12 | 11 | 1250,401 | 0,066     |
| 2  | 11 | 1482,008 | 0,067     |

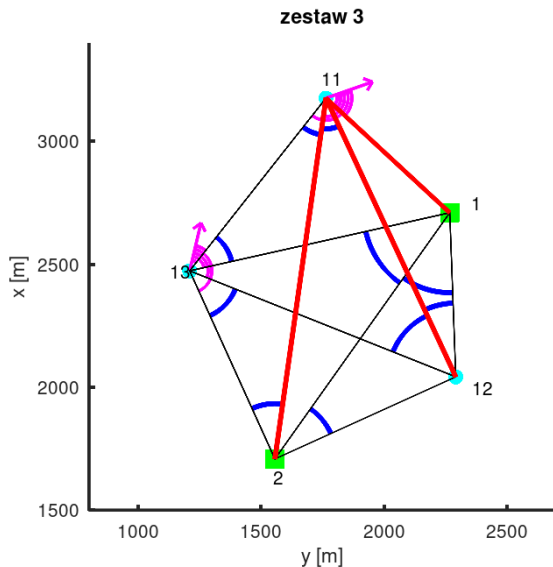
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,3       |
| 13 | 1  | 43,47620   | 13,6       |
| 13 | 12 | 81,60012   | 12,7       |
| 13 | 2  | 130,38074  | 15,4       |
| 13 | 11 | 0,00003    | 17,3       |
| 11 | 1  | 0,00000    | 14,8       |
| 11 | 12 | 24,69117   | 13,6       |
| 11 | 2  | 61,38836   | 16,4       |
| 11 | 13 | 94,97065   | 17,3       |
| 11 | 1  | 399,99981  | 14,8       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69731        | 14,5            |
| 2  | 11 | 13 | 33,58198        | 16,7            |
| 11 | 13 | 1  | 43,47627        | 13,9            |
| 12 | 13 | 2  | 48,78049        | 16,7            |
| 13 | 2  | 11 | 36,03744        | 11,4            |
| 1  | 2  | 12 | 33,56485        | 13,9            |
| 13 | 12 | 11 | 48,12034        | 13,9            |
| 11 | 12 | 1  | 25,40216        | 15,7            |
| 12 | 1  | 2  | 41,65478        | 15,4            |
| 2  | 1  | 13 | 46,69849        | 17,0            |

## Zestaw 3: poglądowy szkic sieci



## Zestaw 4: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2705,694 | 2269,920 |
| 2  | 1710,633 | 1550,151 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,928 | 0,068     |
| 2  | 11 | 1482,002 | 0,069     |
| 11 | 13 | 894,799  | 0,051     |

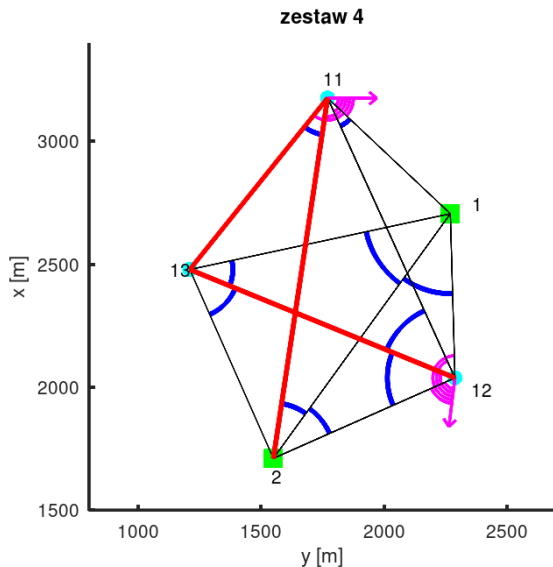
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 18,2       |
| 12 | 13 | 51,25802   | 13,9       |
| 12 | 11 | 99,37840   | 12,3       |
| 12 | 1  | 124,78062  | 18,8       |
| 12 | 2  | 0,00012    | 18,2       |
| 11 | 1  | 0,00000    | 15,4       |
| 11 | 12 | 24,69130   | 13,6       |
| 11 | 2  | 61,38812   | 14,2       |
| 11 | 13 | 94,97065   | 13,6       |
| 11 | 1  | 0,00028    | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69127        | 17,6            |
| 2  | 11 | 13 | 33,58185        | 18,8            |
| 1  | 13 | 12 | 38,12423        | 12,0            |
| 12 | 13 | 2  | 48,78015        | 14,5            |
| 11 | 2  | 1  | 30,35966        | 12,0            |
| 1  | 2  | 12 | 33,56475        | 17,6            |
| 2  | 12 | 13 | 51,25830        | 13,3            |
| 13 | 12 | 11 | 48,12046        | 15,7            |
| 12 | 1  | 2  | 41,65472        | 14,2            |
| 2  | 1  | 13 | 46,69843        | 12,7            |

## Zestaw 4: poglądowy szkic sieci



## Zestaw 5: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2494,884 | 1289,200 |
| 2  | 2794,486 | 2480,188 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,701 | 0,046     |
| 12 | 11 | 1250,408 | 0,062     |
| 12 | 13 | 1164,926 | 0,061     |

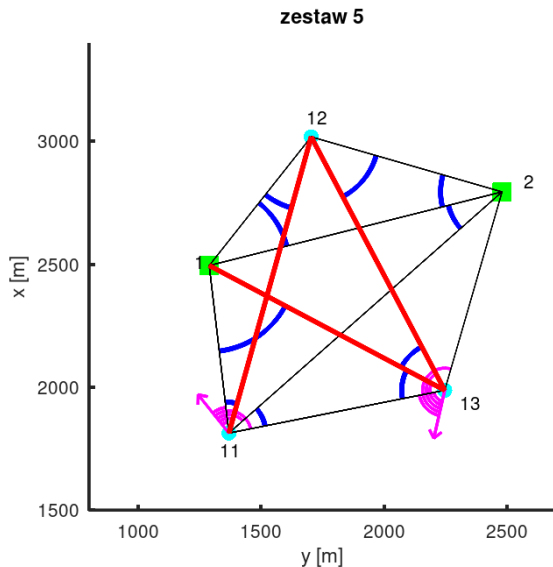
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 15,1       |
| 11 | 12 | 24,69123   | 14,2       |
| 11 | 2  | 61,38809   | 13,6       |
| 11 | 13 | 94,97031   | 14,5       |
| 11 | 1  | 0,00012    | 15,1       |
| 13 | 11 | 0,00000    | 15,4       |
| 13 | 1  | 43,47599   | 18,2       |
| 13 | 12 | 81,60022   | 17,9       |
| 13 | 2  | 130,38090  | 15,1       |
| 13 | 11 | 399,99972  | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69071        | 17,6            |
| 2  | 11 | 13 | 33,58201        | 18,8            |
| 11 | 13 | 1  | 43,47586        | 12,0            |
| 1  | 13 | 12 | 38,12420        | 16,4            |
| 11 | 2  | 1  | 30,35963        | 13,6            |
| 1  | 2  | 12 | 33,56497        | 15,4            |
| 2  | 12 | 13 | 51,25830        | 17,9            |
| 11 | 12 | 1  | 25,40210        | 19,1            |
| 12 | 1  | 2  | 41,65519        | 15,1            |
| 13 | 1  | 11 | 61,55355        | 14,8            |

## Zestaw 5: poglądowy szkic sieci



## Zestaw 6: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2683,578 | 1352,771 |
| 2  | 2525,834 | 2570,691 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,811  | 0,034     |
| 1  | 13 | 1083,703 | 0,051     |
| 11 | 13 | 894,792  | 0,051     |

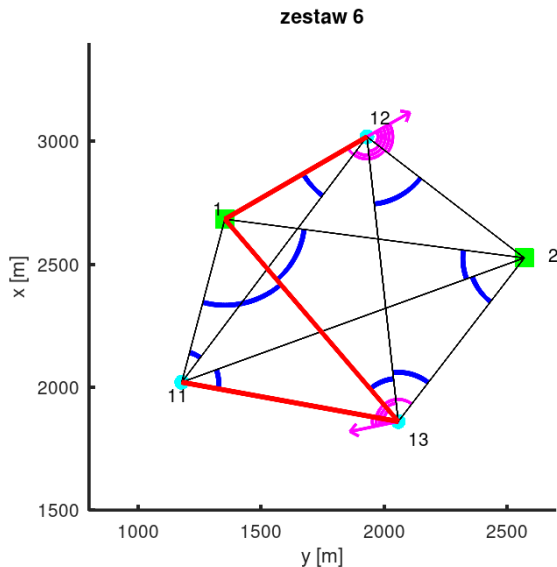
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,3       |
| 13 | 1  | 43,47636   | 17,0       |
| 13 | 12 | 81,60015   | 15,7       |
| 13 | 2  | 130,38046  | 15,4       |
| 13 | 11 | 399,99994  | 17,3       |
| 12 | 2  | 0,00000    | 17,3       |
| 12 | 13 | 51,25806   | 17,9       |
| 12 | 11 | 99,37827   | 15,7       |
| 12 | 1  | 124,78049  | 16,7       |
| 12 | 2  | 0,00022    | 17,3       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69102        | 16,7            |
| 2  | 11 | 13 | 33,58194        | 18,8            |
| 1  | 13 | 12 | 38,12398        | 16,4            |
| 12 | 13 | 2  | 48,78046        | 17,0            |
| 13 | 2  | 11 | 36,03744        | 13,0            |
| 11 | 2  | 1  | 30,35948        | 12,0            |
| 2  | 12 | 13 | 51,25809        | 13,9            |
| 11 | 12 | 1  | 25,40176        | 16,7            |
| 2  | 1  | 13 | 46,69889        | 14,8            |
| 13 | 1  | 11 | 61,55340        | 18,5            |

## Zestaw 6: poglądowy szkic sieci



## Zestaw 7: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2935,222 | 1963,869 |
| 2  | 1714,128 | 2094,802 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 12 | 667,809 | 0,039     |
| 1  | 11 | 686,011 | 0,041     |
| 12 | 2  | 807,792 | 0,040     |

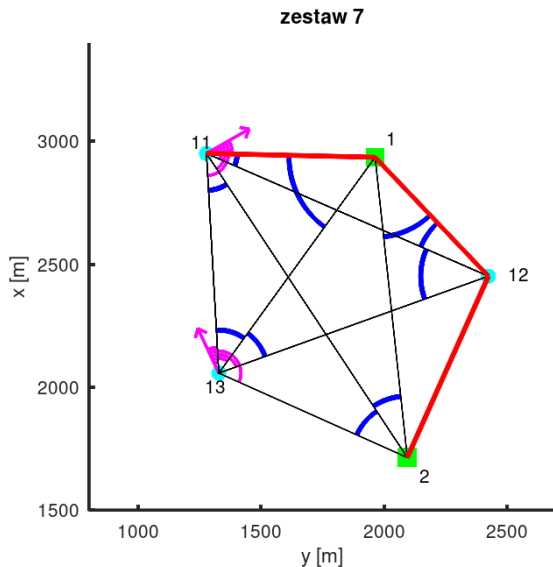
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69086   | 17,0       |
| 11 | 2  | 61,38802   | 13,3       |
| 11 | 13 | 94,97012   | 13,3       |
| 11 | 1  | 399,99975  | 17,9       |
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47611   | 16,7       |
| 13 | 12 | 81,60028   | 17,0       |
| 13 | 2  | 130,38099  | 18,8       |
| 13 | 11 | 0,00009    | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69114        | 16,4            |
| 2  | 11 | 13 | 33,58210        | 19,1            |
| 11 | 13 | 1  | 43,47623        | 11,7            |
| 1  | 13 | 12 | 38,12448        | 16,0            |
| 13 | 2  | 11 | 36,03738        | 12,3            |
| 11 | 2  | 1  | 30,35923        | 14,8            |
| 13 | 12 | 11 | 48,12040        | 13,6            |
| 11 | 12 | 1  | 25,40160        | 14,2            |
| 12 | 1  | 2  | 41,65512        | 13,6            |
| 13 | 1  | 11 | 61,55327        | 16,4            |

## Zestaw 7: poglądowy szkic sieci



## Zestaw 8: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1982,630 | 2121,251 |
| 2  | 2658,310 | 1095,741 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 11 | 686,023 | 0,041     |
| 12 | 2  | 807,803 | 0,042     |
| 11 | 13 | 894,795 | 0,047     |

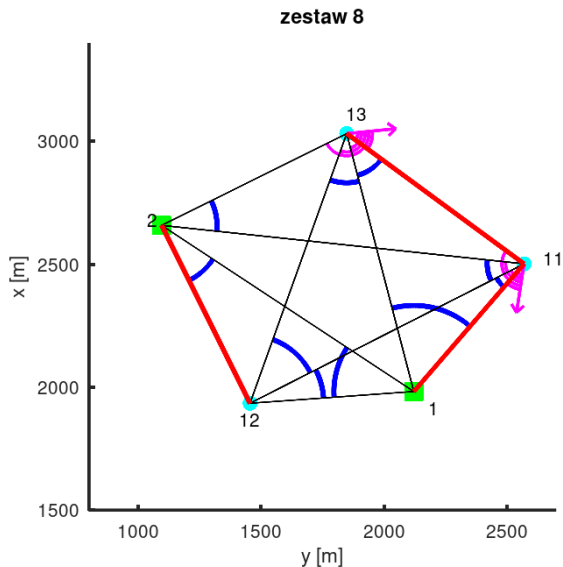
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,9       |
| 13 | 1  | 43,47623   | 15,4       |
| 13 | 12 | 81,60043   | 17,3       |
| 13 | 2  | 130,38074  | 13,3       |
| 13 | 11 | 0,00019    | 17,9       |
| 11 | 1  | 0,00000    | 14,8       |
| 11 | 12 | 24,69105   | 13,6       |
| 11 | 2  | 61,38809   | 17,3       |
| 11 | 13 | 94,97052   | 13,6       |
| 11 | 1  | 0,00003    | 14,8       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69117        | 19,4            |
| 12 | 11 | 2  | 36,69753        | 12,7            |
| 11 | 13 | 1  | 43,47611        | 15,4            |
| 1  | 13 | 12 | 38,12432        | 15,4            |
| 13 | 2  | 11 | 36,03725        | 11,4            |
| 1  | 2  | 12 | 33,56478        | 13,3            |
| 13 | 12 | 11 | 48,12000        | 15,4            |
| 11 | 12 | 1  | 25,40160        | 17,0            |
| 12 | 1  | 2  | 41,65494        | 14,2            |
| 13 | 1  | 11 | 61,55349        | 17,9            |

## Zestaw 8: poglądowy szkic sieci



## Zestaw 9: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2149,861 | 1358,652 |
| 2  | 3125,739 | 2104,222 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,802  | 0,040     |
| 12 | 11 | 1250,417 | 0,063     |
| 2  | 11 | 1482,011 | 0,070     |

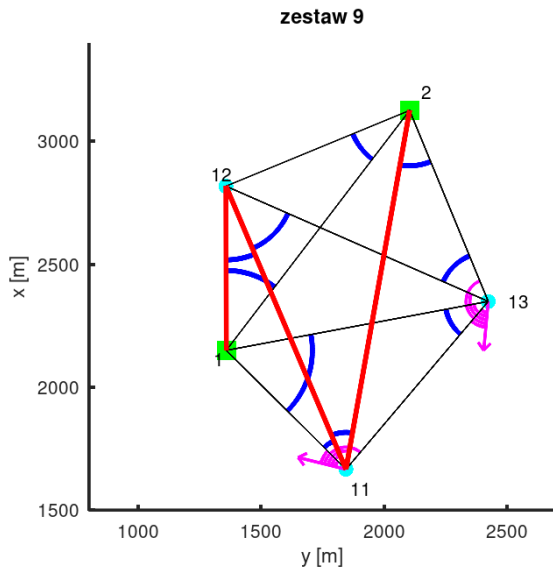
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,3       |
| 11 | 12 | 24,69108   | 18,2       |
| 11 | 2  | 61,38836   | 14,8       |
| 11 | 13 | 94,97056   | 14,8       |
| 11 | 1  | 0,00009    | 17,3       |
| 13 | 11 | 0,00000    | 15,7       |
| 13 | 1  | 43,47611   | 15,7       |
| 13 | 12 | 81,60003   | 16,4       |
| 13 | 2  | 130,38046  | 17,0       |
| 13 | 11 | 0,00028    | 15,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69102        | 16,0            |
| 12 | 11 | 2  | 36,69725        | 16,4            |
| 11 | 13 | 1  | 43,47630        | 11,1            |
| 12 | 13 | 2  | 48,78056        | 16,4            |
| 13 | 2  | 11 | 36,03694        | 14,2            |
| 1  | 2  | 12 | 33,56485        | 14,2            |
| 13 | 12 | 11 | 48,12015        | 16,7            |
| 11 | 12 | 1  | 25,40170        | 15,7            |
| 12 | 1  | 2  | 41,65497        | 16,0            |
| 13 | 1  | 11 | 61,55373        | 17,0            |

## Zestaw 9: poglądowy szkic sieci



## Zestaw 10: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2395,101 | 2351,005 |
| 2  | 1992,837 | 1190,661 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 12 | 667,805 | 0,038     |
| 12 | 2  | 807,802 | 0,036     |
| 2  | 13 | 839,839 | 0,044     |

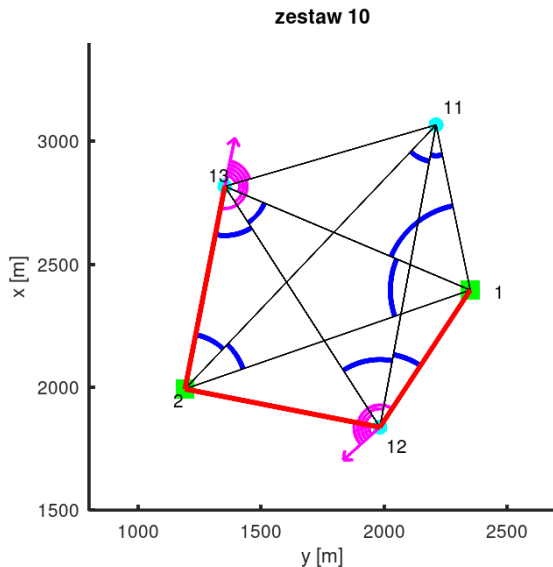
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,4       |
| 13 | 1  | 43,47611   | 18,5       |
| 13 | 12 | 81,60046   | 17,3       |
| 13 | 2  | 130,38083  | 15,7       |
| 13 | 11 | 0,00022    | 15,4       |
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25790   | 19,1       |
| 12 | 11 | 99,37815   | 14,8       |
| 12 | 1  | 124,78031  | 14,8       |
| 12 | 2  | 399,99981  | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69093        | 19,1            |
| 12 | 11 | 2  | 36,69719        | 17,6            |
| 1  | 13 | 12 | 38,12444        | 14,5            |
| 12 | 13 | 2  | 48,78049        | 17,3            |
| 13 | 2  | 11 | 36,03707        | 14,8            |
| 11 | 2  | 1  | 30,35951        | 17,3            |
| 13 | 12 | 11 | 48,12012        | 14,2            |
| 11 | 12 | 1  | 25,40173        | 19,4            |
| 2  | 1  | 13 | 46,69852        | 18,2            |
| 13 | 1  | 11 | 61,55370        | 16,4            |

## Zestaw 10: poglądowy szkic sieci



## Zestaw 11: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1952,162 | 1564,317 |
| 2  | 3172,650 | 1700,781 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,010  | 0,039     |
| 2  | 11 | 1482,009 | 0,069     |
| 11 | 13 | 894,795  | 0,044     |

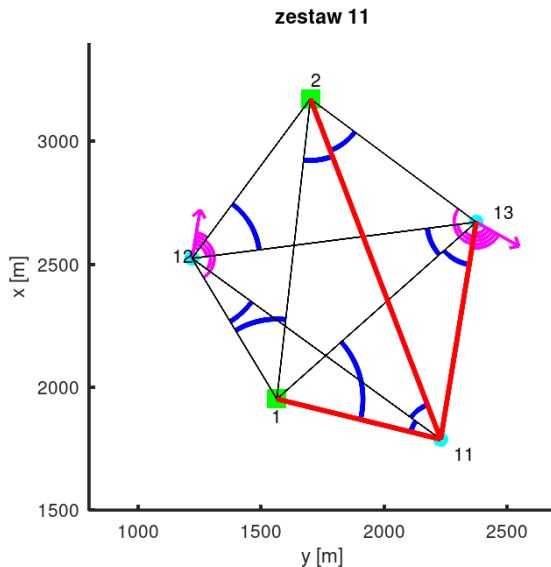
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47593   | 16,7       |
| 13 | 12 | 81,60012   | 12,3       |
| 13 | 2  | 130,38046  | 14,8       |
| 13 | 11 | 0,00003    | 19,1       |
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25830   | 16,7       |
| 12 | 11 | 99,37864   | 17,3       |
| 12 | 1  | 124,78012  | 17,3       |
| 12 | 2  | 399,99969  | 15,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69077        | 17,3            |
| 12 | 11 | 2  | 36,69731        | 17,6            |
| 11 | 13 | 1  | 43,47636        | 11,1            |
| 1  | 13 | 12 | 38,12407        | 12,0            |
| 13 | 2  | 11 | 36,03744        | 15,7            |
| 11 | 2  | 1  | 30,35926        | 13,3            |
| 2  | 12 | 13 | 51,25812        | 14,8            |
| 11 | 12 | 1  | 25,40198        | 16,4            |
| 12 | 1  | 2  | 41,65503        | 15,4            |
| 13 | 1  | 11 | 61,55370        | 15,4            |

# Zestaw 11: poglądowy szkic sieci



## Zestaw 12: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2949,879 | 1895,607 |
| 2  | 1756,322 | 2184,804 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,931 | 0,060     |
| 2  | 13 | 839,840  | 0,037     |
| 11 | 13 | 894,805  | 0,049     |

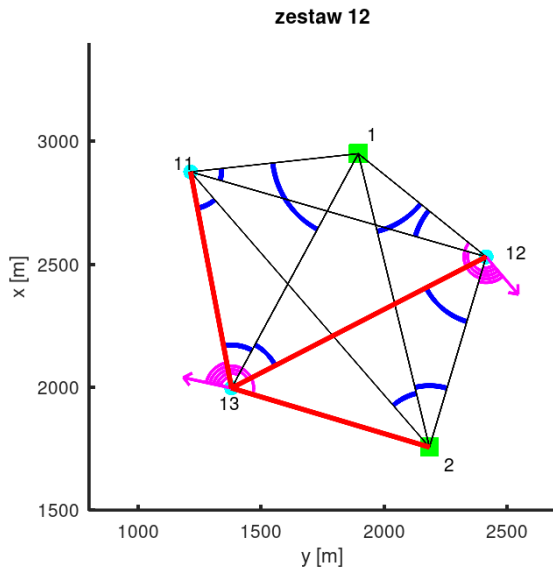
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 18,5       |
| 12 | 13 | 51,25833   | 18,2       |
| 12 | 11 | 99,37861   | 17,0       |
| 12 | 1  | 124,78059  | 17,3       |
| 12 | 2  | 0,00003    | 18,5       |
| 13 | 11 | 0,00000    | 17,9       |
| 13 | 1  | 43,47599   | 16,0       |
| 13 | 12 | 81,60009   | 14,8       |
| 13 | 2  | 130,38046  | 15,7       |
| 13 | 11 | 0,00006    | 17,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69127        | 19,4            |
| 2  | 11 | 13 | 33,58225        | 16,4            |
| 11 | 13 | 1  | 43,47617        | 10,2            |
| 1  | 13 | 12 | 38,12395        | 15,4            |
| 11 | 2  | 1  | 30,35972        | 14,2            |
| 1  | 2  | 12 | 33,56460        | 13,9            |
| 2  | 12 | 13 | 51,25830        | 17,3            |
| 11 | 12 | 1  | 25,40213        | 15,7            |
| 12 | 1  | 2  | 41,65491        | 13,3            |
| 13 | 1  | 11 | 61,55358        | 18,8            |

## Zestaw 12: poglądowy szkic sieci



## Zestaw 13: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2151,970 | 2278,438 |
| 2  | 2330,945 | 1063,456 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,919 | 0,061     |
| 12 | 2  | 807,784  | 0,038     |
| 2  | 13 | 839,843  | 0,037     |

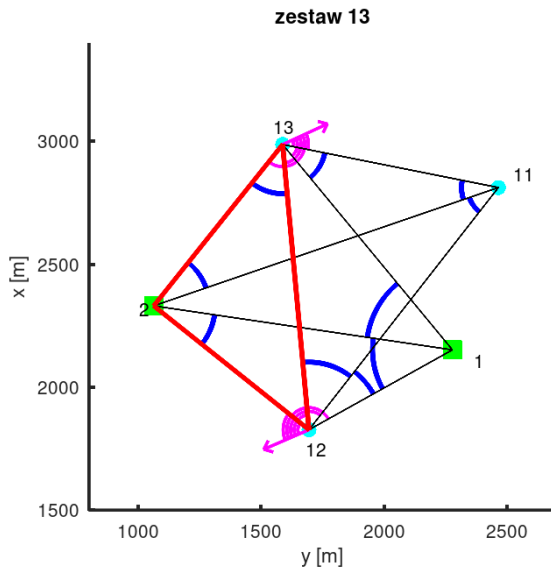
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 13,9       |
| 12 | 13 | 51,25806   | 16,0       |
| 12 | 11 | 99,37870   | 17,9       |
| 12 | 1  | 124,78006  | 17,0       |
| 12 | 2  | 399,99978  | 13,9       |
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47627   | 16,4       |
| 13 | 12 | 81,60040   | 17,3       |
| 13 | 2  | 130,38059  | 16,0       |
| 13 | 11 | 399,99969  | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69701        | 15,7            |
| 2  | 11 | 13 | 33,58222        | 16,7            |
| 11 | 13 | 1  | 43,47586        | 14,2            |
| 12 | 13 | 2  | 48,78052        | 13,3            |
| 13 | 2  | 11 | 36,03735        | 14,5            |
| 1  | 2  | 12 | 33,56478        | 15,7            |
| 13 | 12 | 11 | 48,12015        | 17,0            |
| 11 | 12 | 1  | 25,40216        | 17,9            |
| 12 | 1  | 2  | 41,65488        | 14,5            |
| 2  | 1  | 13 | 46,69889        | 15,1            |

## Zestaw 13: poglądowy szkic sieci



## Zestaw 14: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2736,532 | 2249,016 |
| 2  | 1693,687 | 1600,412 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,025  | 0,042     |
| 12 | 11 | 1250,416 | 0,062     |
| 12 | 13 | 1164,931 | 0,067     |

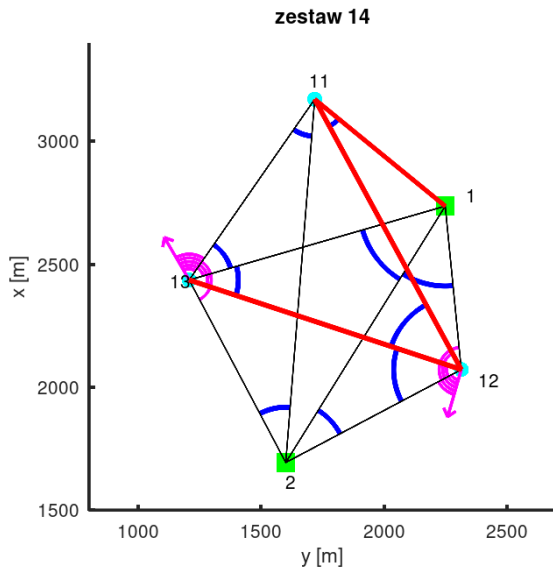
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 13,6       |
| 13 | 1  | 43,47583   | 13,6       |
| 13 | 12 | 81,60037   | 14,2       |
| 13 | 2  | 130,38049  | 18,2       |
| 13 | 11 | 0,00009    | 13,6       |
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25843   | 18,5       |
| 12 | 11 | 99,37830   | 16,7       |
| 12 | 1  | 124,78022  | 17,0       |
| 12 | 2  | 399,99972  | 15,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69096        | 14,2            |
| 2  | 11 | 13 | 33,58219        | 16,7            |
| 11 | 13 | 1  | 43,47630        | 15,1            |
| 1  | 13 | 12 | 38,12395        | 13,9            |
| 13 | 2  | 11 | 36,03716        | 10,2            |
| 1  | 2  | 12 | 33,56475        | 17,3            |
| 2  | 12 | 13 | 51,25815        | 13,9            |
| 13 | 12 | 11 | 48,12046        | 13,6            |
| 12 | 1  | 2  | 41,65475        | 18,2            |
| 2  | 1  | 13 | 46,69873        | 15,4            |

## Zestaw 14: poglądowy szkic sieci



## Zestaw 15: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1986,570 | 1508,971 |
| 2  | 3181,330 | 1793,158 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,688 | 0,049     |
| 12 | 11 | 1250,403 | 0,060     |
| 2  | 13 | 839,834  | 0,044     |

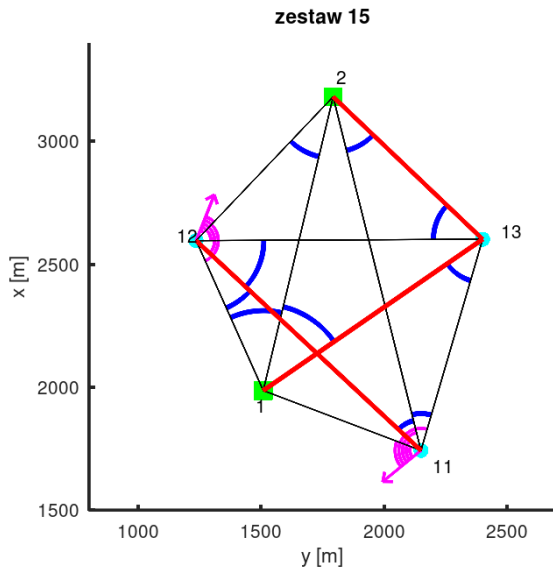
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25836   | 19,1       |
| 12 | 11 | 99,37821   | 16,0       |
| 12 | 1  | 124,78037  | 13,3       |
| 12 | 2  | 399,99988  | 15,1       |
| 11 | 1  | 0,00000    | 13,9       |
| 11 | 12 | 24,69117   | 17,9       |
| 11 | 2  | 61,38809   | 13,9       |
| 11 | 13 | 94,97028   | 18,5       |
| 11 | 1  | 0,00003    | 13,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69728        | 16,0            |
| 2  | 11 | 13 | 33,58219        | 15,7            |
| 11 | 13 | 1  | 43,47583        | 14,2            |
| 12 | 13 | 2  | 48,78034        | 15,1            |
| 13 | 2  | 11 | 36,03722        | 13,9            |
| 1  | 2  | 12 | 33,56451        | 13,9            |
| 13 | 12 | 11 | 48,12043        | 17,9            |
| 11 | 12 | 1  | 25,40167        | 14,8            |
| 12 | 1  | 2  | 41,65475        | 14,2            |
| 2  | 1  | 13 | 46,69889        | 16,4            |

## Zestaw 15: poglądowy szkic sieci



## Zestaw 16: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2027,466 | 1458,232 |
| 2  | 3178,686 | 1885,904 |

### Obserwacje odległości

| p | k  | d [m]   | $m_d$ [m] |
|---|----|---------|-----------|
| 1 | 12 | 667,799 | 0,039     |
| 1 | 11 | 686,021 | 0,036     |
| 2 | 13 | 839,846 | 0,041     |

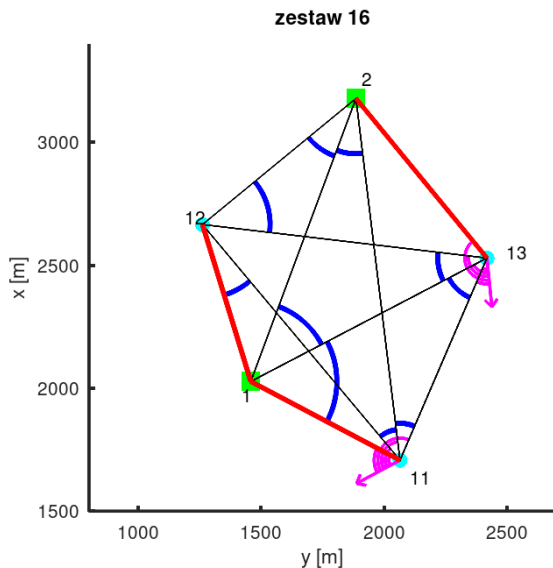
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 14,5       |
| 13 | 1  | 43,47593   | 19,1       |
| 13 | 12 | 81,60006   | 13,0       |
| 13 | 2  | 130,38093  | 16,7       |
| 13 | 11 | 0,00012    | 14,5       |
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69086   | 15,1       |
| 11 | 2  | 61,38821   | 14,5       |
| 11 | 13 | 94,97009   | 13,9       |
| 11 | 1  | 0,00003    | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69725        | 17,0            |
| 2  | 11 | 13 | 33,58191        | 16,0            |
| 11 | 13 | 1  | 43,47623        | 11,1            |
| 1  | 13 | 12 | 38,12423        | 12,7            |
| 11 | 2  | 1  | 30,35966        | 15,7            |
| 1  | 2  | 12 | 33,56478        | 14,5            |
| 2  | 12 | 13 | 51,25843        | 16,4            |
| 11 | 12 | 1  | 25,40201        | 17,6            |
| 2  | 1  | 13 | 46,69855        | 12,7            |
| 13 | 1  | 11 | 61,55367        | 16,7            |

# Zestaw 16: poglądowy szkic sieci



## Zestaw 17: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2829,901 | 1473,900 |
| 2  | 2255,622 | 2559,449 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,022  | 0,041     |
| 12 | 11 | 1250,415 | 0,065     |
| 12 | 13 | 1164,921 | 0,065     |

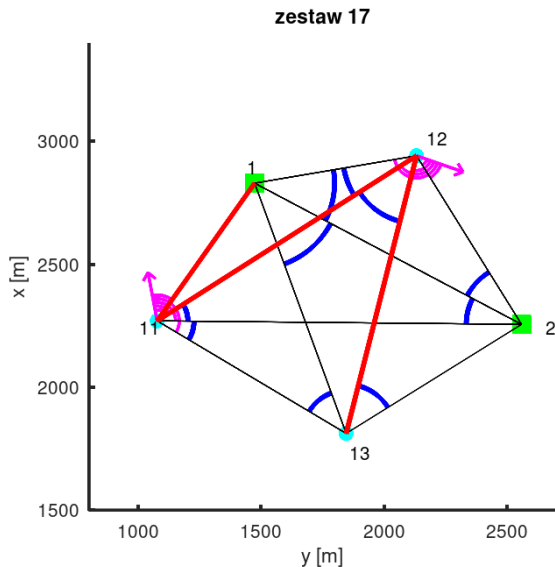
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 17,3       |
| 12 | 13 | 51,25830   | 18,8       |
| 12 | 11 | 99,37815   | 16,4       |
| 12 | 1  | 124,78062  | 16,0       |
| 12 | 2  | 0,00015    | 17,3       |
| 11 | 1  | 0,00000    | 18,2       |
| 11 | 12 | 24,69077   | 18,2       |
| 11 | 2  | 61,38849   | 13,9       |
| 11 | 13 | 94,97056   | 17,9       |
| 11 | 1  | 399,99997  | 18,2       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69756        | 13,9            |
| 2  | 11 | 13 | 33,58228        | 16,0            |
| 11 | 13 | 1  | 43,47605        | 12,0            |
| 12 | 13 | 2  | 48,78031        | 16,4            |
| 11 | 2  | 1  | 30,35975        | 11,7            |
| 1  | 2  | 12 | 33,56441        | 18,8            |
| 13 | 12 | 11 | 48,12040        | 13,9            |
| 11 | 12 | 1  | 25,40164        | 16,7            |
| 12 | 1  | 2  | 41,65503        | 16,0            |
| 2  | 1  | 13 | 46,69858        | 15,7            |

# Zestaw 17: poglądowy szkic sieci



## Zestaw 18: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2025,980 | 2175,981 |
| 2  | 2562,023 | 1071,051 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,009  | 0,036     |
| 12 | 11 | 1250,404 | 0,064     |
| 12 | 13 | 1164,923 | 0,065     |

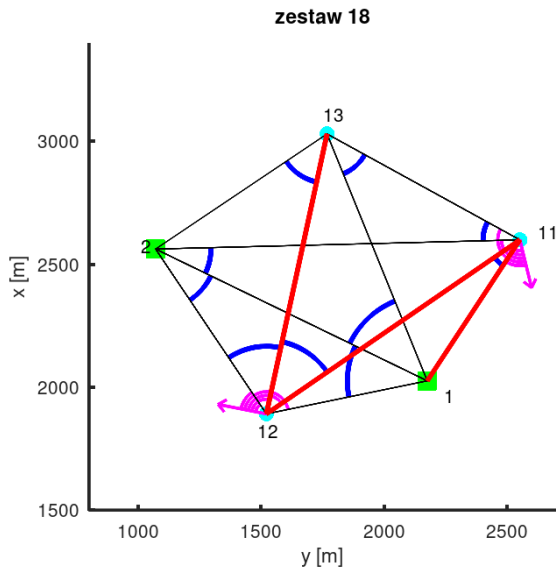
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 16,0       |
| 11 | 12 | 24,69077   | 14,5       |
| 11 | 2  | 61,38855   | 13,9       |
| 11 | 13 | 94,97068   | 19,1       |
| 11 | 1  | 0,00003    | 16,0       |
| 12 | 2  | 0,00000    | 16,0       |
| 12 | 13 | 51,25787   | 14,8       |
| 12 | 11 | 99,37836   | 17,0       |
| 12 | 1  | 124,78062  | 13,3       |
| 12 | 2  | 399,99978  | 16,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69105        | 17,0            |
| 2  | 11 | 13 | 33,58207        | 16,7            |
| 11 | 13 | 1  | 43,47627        | 13,3            |
| 12 | 13 | 2  | 48,78009        | 13,0            |
| 11 | 2  | 1  | 30,35963        | 15,7            |
| 1  | 2  | 12 | 33,56485        | 17,0            |
| 2  | 12 | 13 | 51,25802        | 15,1            |
| 13 | 12 | 11 | 48,12034        | 17,9            |
| 12 | 1  | 2  | 41,65466        | 18,5            |
| 2  | 1  | 13 | 46,69864        | 16,0            |

## Zestaw 18: poglądowy szkic sieci



## Zestaw 19: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2531,588 | 1295,586 |
| 2  | 2747,381 | 2504,571 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 11 | 686,025 | 0,035     |
| 2  | 13 | 839,833 | 0,037     |
| 11 | 13 | 894,792 | 0,050     |

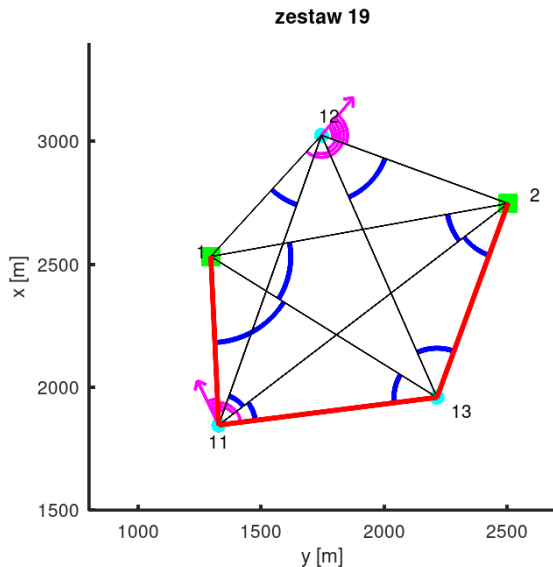
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,6       |
| 11 | 12 | 24,69105   | 14,5       |
| 11 | 2  | 61,38806   | 16,4       |
| 11 | 13 | 94,97037   | 17,0       |
| 11 | 1  | 399,99978  | 17,6       |
| 12 | 2  | 0,00000    | 13,9       |
| 12 | 13 | 51,25818   | 16,0       |
| 12 | 11 | 99,37849   | 12,3       |
| 12 | 1  | 124,78052  | 18,8       |
| 12 | 2  | 399,99997  | 13,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69707        | 17,9            |
| 2  | 11 | 13 | 33,58182        | 17,6            |
| 11 | 13 | 1  | 43,47623        | 15,1            |
| 12 | 13 | 2  | 48,78040        | 17,0            |
| 13 | 2  | 11 | 36,03738        | 13,3            |
| 11 | 2  | 1  | 30,35969        | 14,2            |
| 2  | 12 | 13 | 51,25787        | 17,9            |
| 11 | 12 | 1  | 25,40157        | 15,4            |
| 2  | 1  | 13 | 46,69858        | 18,2            |
| 13 | 1  | 11 | 61,55349        | 19,4            |

## Zestaw 19: poglądowy szkic sieci



## Zestaw 20: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1897,638 | 1717,281 |
| 2  | 3102,673 | 1480,421 |

### Obserwacje odległości

| p | k  | d [m]    | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 13 | 1083,697 | 0,050     |
| 1 | 11 | 686,014  | 0,041     |
| 2 | 11 | 1482,003 | 0,075     |

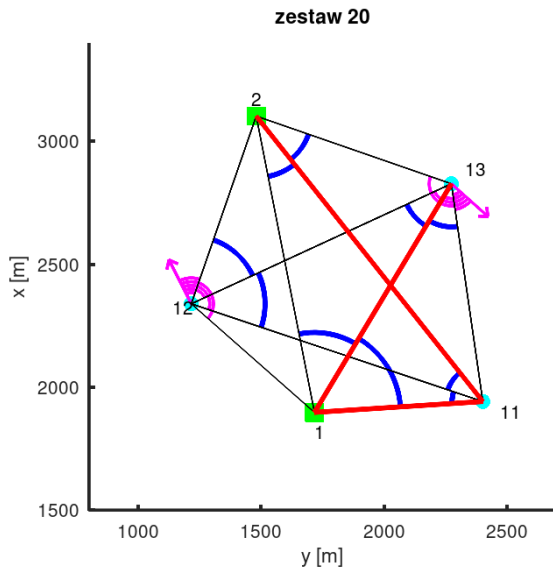
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,4       |
| 13 | 1  | 43,47614   | 18,8       |
| 13 | 12 | 81,60015   | 15,7       |
| 13 | 2  | 130,38099  | 19,1       |
| 13 | 11 | 399,99997  | 16,4       |
| 12 | 2  | 0,00000    | 13,9       |
| 12 | 13 | 51,25787   | 14,5       |
| 12 | 11 | 99,37827   | 12,7       |
| 12 | 1  | 124,78009  | 17,0       |
| 12 | 2  | 0,00012    | 13,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69077        | 18,8            |
| 12 | 11 | 2  | 36,69704        | 17,9            |
| 11 | 13 | 1  | 43,47602        | 16,0            |
| 1  | 13 | 12 | 38,12398        | 13,6            |
| 13 | 2  | 11 | 36,03744        | 11,1            |
| 11 | 2  | 1  | 30,35969        | 13,0            |
| 2  | 12 | 13 | 51,25821        | 17,6            |
| 13 | 12 | 11 | 48,12034        | 15,1            |
| 2  | 1  | 13 | 46,69889        | 16,4            |
| 13 | 1  | 11 | 61,55352        | 16,7            |

## Zestaw 20: poglądowy szkic sieci



## Zestaw 21: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2122,330 | 1376,111 |
| 2  | 3141,904 | 2060,715 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,796  | 0,041     |
| 12 | 11 | 1250,417 | 0,063     |
| 12 | 2  | 807,792  | 0,040     |

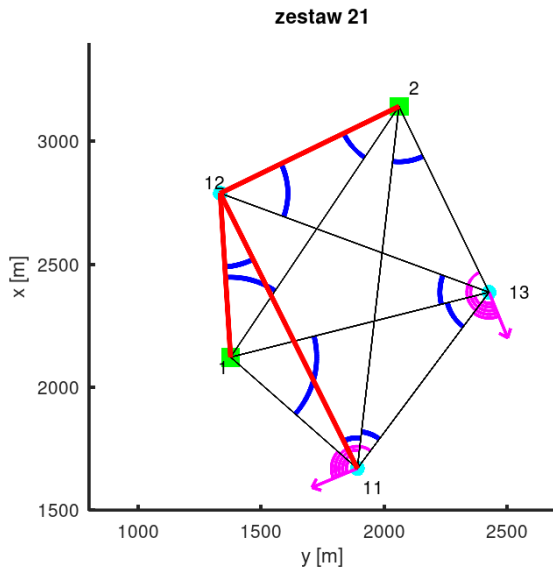
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,0       |
| 13 | 1  | 43,47593   | 16,4       |
| 13 | 12 | 81,60052   | 13,9       |
| 13 | 2  | 130,38074  | 18,5       |
| 13 | 11 | 399,99985  | 17,0       |
| 11 | 1  | 0,00000    | 18,8       |
| 11 | 12 | 24,69090   | 19,4       |
| 11 | 2  | 61,38852   | 16,0       |
| 11 | 13 | 94,97028   | 17,6       |
| 11 | 1  | 0,00006    | 18,8       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69713        | 13,6            |
| 2  | 11 | 13 | 33,58182        | 13,9            |
| 11 | 13 | 1  | 43,47602        | 15,1            |
| 1  | 13 | 12 | 38,12426        | 15,1            |
| 13 | 2  | 11 | 36,03731        | 15,7            |
| 1  | 2  | 12 | 33,56475        | 13,3            |
| 2  | 12 | 13 | 51,25787        | 13,6            |
| 11 | 12 | 1  | 25,40198        | 15,1            |
| 12 | 1  | 2  | 41,65503        | 17,0            |
| 13 | 1  | 11 | 61,55380        | 16,0            |

## Zestaw 21: poglądowy szkic sieci



## Zestaw 22: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1892,192 | 1884,186 |
| 2  | 2965,055 | 1286,543 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 11 | 686,009 | 0,039     |
| 12 | 2  | 807,789 | 0,043     |
| 11 | 13 | 894,800 | 0,050     |

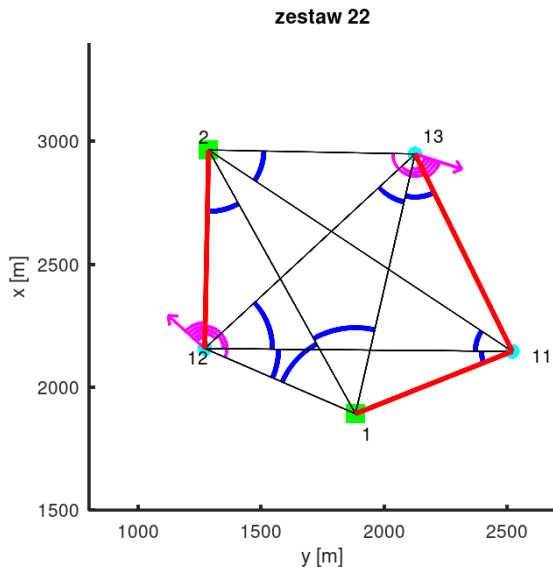
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,9       |
| 13 | 1  | 43,47577   | 14,5       |
| 13 | 12 | 81,60025   | 15,7       |
| 13 | 2  | 130,38099  | 16,4       |
| 13 | 11 | 0,00009    | 17,9       |
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25787   | 14,5       |
| 12 | 11 | 99,37843   | 13,0       |
| 12 | 1  | 124,78015  | 16,4       |
| 12 | 2  | 399,99978  | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69102        | 19,1            |
| 12 | 11 | 2  | 36,69759        | 15,4            |
| 11 | 13 | 1  | 43,47605        | 16,0            |
| 1  | 13 | 12 | 38,12401        | 15,7            |
| 13 | 2  | 11 | 36,03725        | 12,3            |
| 1  | 2  | 12 | 33,56444        | 13,6            |
| 13 | 12 | 11 | 48,12052        | 13,0            |
| 11 | 12 | 1  | 25,40198        | 14,8            |
| 12 | 1  | 2  | 41,65485        | 17,9            |
| 2  | 1  | 13 | 46,69886        | 15,7            |

## Zestaw 22: poglądowy szkic sieci



## Zestaw 23: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2497,308 | 2346,307 |
| 2  | 1881,031 | 1284,038 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,925 | 0,063     |
| 2  | 11 | 1481,997 | 0,072     |
| 2  | 13 | 839,840  | 0,045     |

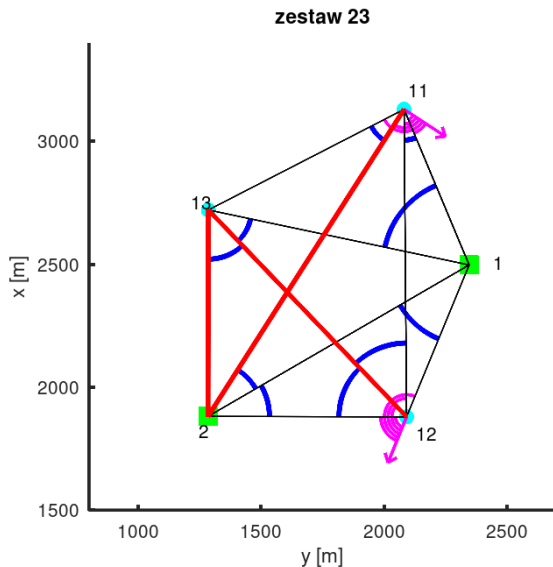
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,3       |
| 11 | 12 | 24,69105   | 17,9       |
| 11 | 2  | 61,38861   | 16,7       |
| 11 | 13 | 94,97009   | 15,4       |
| 11 | 1  | 0,00006    | 17,3       |
| 12 | 2  | 0,00000    | 18,5       |
| 12 | 13 | 51,25809   | 16,7       |
| 12 | 11 | 99,37836   | 16,0       |
| 12 | 1  | 124,78059  | 18,8       |
| 12 | 2  | 399,99978  | 18,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69117        | 19,4            |
| 2  | 11 | 13 | 33,58201        | 18,2            |
| 1  | 13 | 12 | 38,12444        | 12,7            |
| 12 | 13 | 2  | 48,78015        | 13,6            |
| 11 | 2  | 1  | 30,35978        | 16,0            |
| 1  | 2  | 12 | 33,56457        | 17,3            |
| 2  | 12 | 13 | 51,25836        | 17,3            |
| 13 | 12 | 11 | 48,12034        | 13,6            |
| 12 | 1  | 2  | 41,65519        | 13,6            |
| 13 | 1  | 11 | 61,55352        | 15,1            |

## Zestaw 23: poglądowy szkic sieci



## Zestaw 24: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2806,609 | 2187,816 |
| 2  | 1666,978 | 1730,155 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,813  | 0,041     |
| 12 | 11 | 1250,416 | 0,059     |
| 12 | 2  | 807,791  | 0,044     |

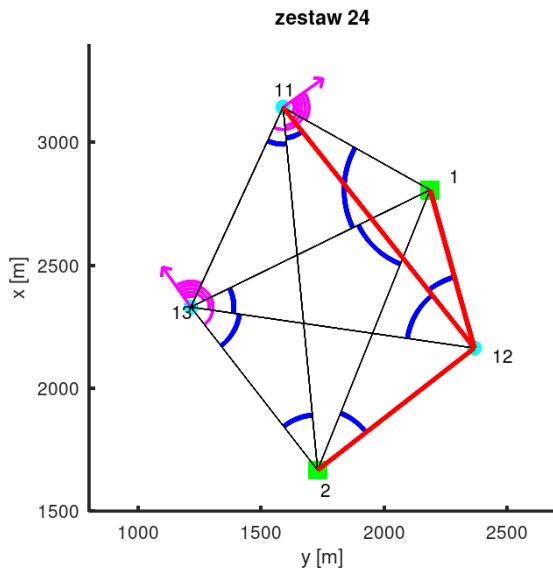
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 13,9       |
| 13 | 1  | 43,47623   | 14,5       |
| 13 | 12 | 81,60006   | 15,7       |
| 13 | 2  | 130,38093  | 19,1       |
| 13 | 11 | 399,99991  | 13,9       |
| 11 | 1  | 0,00000    | 17,6       |
| 11 | 12 | 24,69077   | 16,0       |
| 11 | 2  | 61,38802   | 18,2       |
| 11 | 13 | 94,97056   | 14,5       |
| 11 | 1  | 0,00003    | 17,6       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69728        | 15,1            |
| 2  | 11 | 13 | 33,58222        | 15,1            |
| 1  | 13 | 12 | 38,12429        | 13,3            |
| 12 | 13 | 2  | 48,78022        | 15,1            |
| 13 | 2  | 11 | 36,03750        | 13,9            |
| 1  | 2  | 12 | 33,56441        | 15,1            |
| 13 | 12 | 11 | 48,12006        | 17,9            |
| 11 | 12 | 1  | 25,40157        | 16,4            |
| 2  | 1  | 13 | 46,69864        | 16,7            |
| 13 | 1  | 11 | 61,55336        | 16,7            |

## Zestaw 24: poglądowy szkic sieci



## Zestaw 25: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2563,272 | 1303,261 |
| 2  | 2704,855 | 2523,166 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,690 | 0,051     |
| 2  | 13 | 839,832  | 0,036     |
| 11 | 13 | 894,796  | 0,052     |

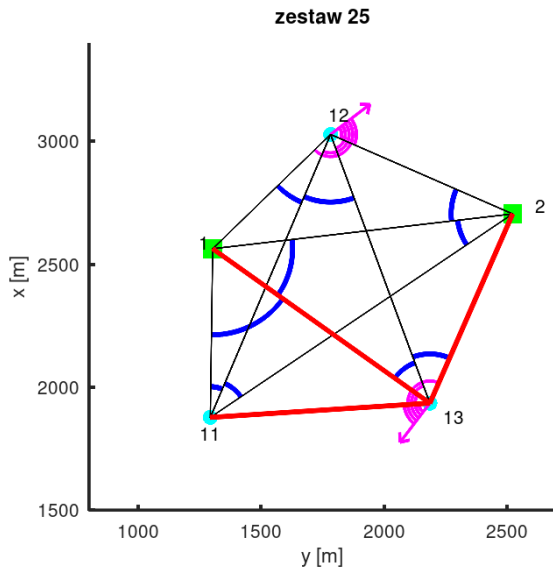
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 14,5       |
| 12 | 13 | 51,25827   | 14,5       |
| 12 | 11 | 99,37858   | 18,2       |
| 12 | 1  | 124,78056  | 18,8       |
| 12 | 2  | 399,99994  | 14,5       |
| 13 | 11 | 0,00000    | 16,0       |
| 13 | 1  | 43,47580   | 16,4       |
| 13 | 12 | 81,60049   | 12,3       |
| 13 | 2  | 130,38074  | 13,3       |
| 13 | 11 | 399,99985  | 16,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69071        | 15,1            |
| 12 | 11 | 2  | 36,69728        | 13,9            |
| 1  | 13 | 12 | 38,12432        | 12,7            |
| 12 | 13 | 2  | 48,78043        | 13,9            |
| 11 | 2  | 1  | 30,35944        | 15,4            |
| 1  | 2  | 12 | 33,56497        | 15,7            |
| 13 | 12 | 11 | 48,12015        | 15,7            |
| 11 | 12 | 1  | 25,40157        | 14,8            |
| 2  | 1  | 13 | 46,69843        | 13,0            |
| 13 | 1  | 11 | 61,55346        | 17,0            |

## Zestaw 25: poglądowy szkic sieci



## Zestaw 26: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2561,139 | 2333,168 |
| 2  | 1819,998 | 1353,922 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 12 | 667,810 | 0,037     |
| 12 | 2  | 807,788 | 0,036     |
| 2  | 13 | 839,845 | 0,044     |

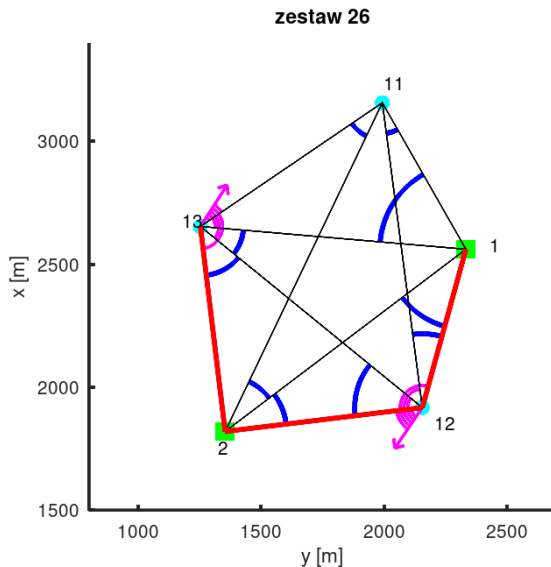
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,7       |
| 13 | 1  | 43,47590   | 17,3       |
| 13 | 12 | 81,60022   | 15,4       |
| 13 | 2  | 130,38046  | 13,9       |
| 13 | 11 | 399,99978  | 16,7       |
| 12 | 2  | 0,00000    | 16,4       |
| 12 | 13 | 51,25790   | 17,0       |
| 12 | 11 | 99,37815   | 16,4       |
| 12 | 1  | 124,78062  | 18,5       |
| 12 | 2  | 0,00009    | 16,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69117        | 13,6            |
| 2  | 11 | 13 | 33,58225        | 17,0            |
| 1  | 13 | 12 | 38,12448        | 15,1            |
| 12 | 13 | 2  | 48,78037        | 13,6            |
| 11 | 2  | 1  | 30,35944        | 13,9            |
| 1  | 2  | 12 | 33,56457        | 14,5            |
| 2  | 12 | 13 | 51,25833        | 16,4            |
| 11 | 12 | 1  | 25,40201        | 18,2            |
| 12 | 1  | 2  | 41,65472        | 14,2            |
| 13 | 1  | 11 | 61,55377        | 13,9            |

## Zestaw 26: poglądowy szkic sieci



## Zestaw 27: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2178,406 | 1342,907 |
| 2  | 3106,948 | 2146,662 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,697 | 0,050     |
| 12 | 13 | 1164,930 | 0,059     |
| 11 | 13 | 894,803  | 0,052     |

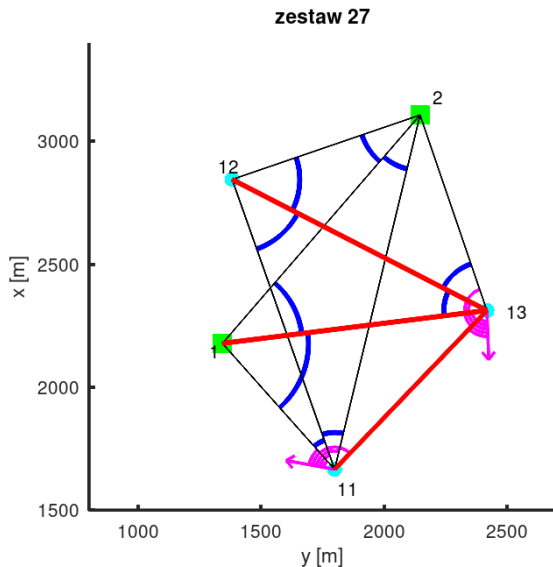
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,0       |
| 13 | 1  | 43,47590   | 13,6       |
| 13 | 12 | 81,60028   | 12,3       |
| 13 | 2  | 130,38049  | 13,6       |
| 13 | 11 | 399,99969  | 17,0       |
| 11 | 1  | 0,00000    | 17,0       |
| 11 | 12 | 24,69093   | 15,1       |
| 11 | 2  | 61,38809   | 12,7       |
| 11 | 13 | 94,97068   | 19,1       |
| 11 | 1  | 0,00006    | 17,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69090        | 13,9            |
| 12 | 11 | 2  | 36,69722        | 14,8            |
| 1  | 13 | 12 | 38,12395        | 13,6            |
| 12 | 13 | 2  | 48,78037        | 11,7            |
| 11 | 2  | 1  | 30,35944        | 12,3            |
| 1  | 2  | 12 | 33,56497        | 15,4            |
| 2  | 12 | 13 | 51,25812        | 18,8            |
| 13 | 12 | 11 | 48,12040        | 15,1            |
| 2  | 1  | 13 | 46,69833        | 18,2            |
| 13 | 1  | 11 | 61,55340        | 16,7            |

## Zestaw 27: poglądowy szkic sieci



## Zestaw 28: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2809,822 | 2184,444 |
| 2  | 1666,241 | 1736,745 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,696 | 0,046     |
| 1  | 11 | 686,020  | 0,035     |
| 11 | 13 | 894,809  | 0,049     |

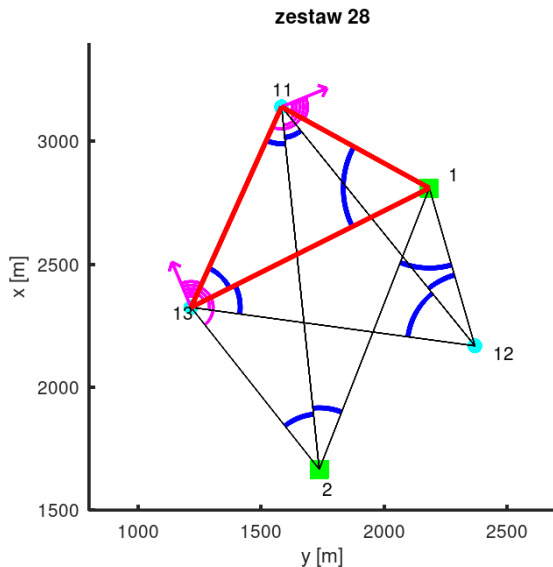
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 18,2       |
| 13 | 1  | 43,47611   | 17,9       |
| 13 | 12 | 81,60019   | 14,5       |
| 13 | 2  | 130,38062  | 14,8       |
| 13 | 11 | 399,99991  | 18,2       |
| 11 | 1  | 0,00000    | 16,7       |
| 11 | 12 | 24,69077   | 17,0       |
| 11 | 2  | 61,38818   | 17,3       |
| 11 | 13 | 94,97019   | 13,9       |
| 11 | 1  | 399,99991  | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69725        | 14,5            |
| 2  | 11 | 13 | 33,58219        | 17,3            |
| 11 | 13 | 1  | 43,47611        | 10,8            |
| 1  | 13 | 12 | 38,12392        | 17,6            |
| 13 | 2  | 11 | 36,03728        | 11,4            |
| 11 | 2  | 1  | 30,35923        | 13,6            |
| 13 | 12 | 11 | 48,12003        | 12,7            |
| 11 | 12 | 1  | 25,40198        | 14,5            |
| 12 | 1  | 2  | 41,65488        | 16,7            |
| 13 | 1  | 11 | 61,55370        | 17,3            |

## Zestaw 28: poglądowy szkic sieci



## Zestaw 29: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2955,410 | 1830,673 |
| 2  | 1805,994 | 2263,173 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,815  | 0,035     |
| 1  | 11 | 686,018  | 0,044     |
| 12 | 13 | 1164,920 | 0,063     |

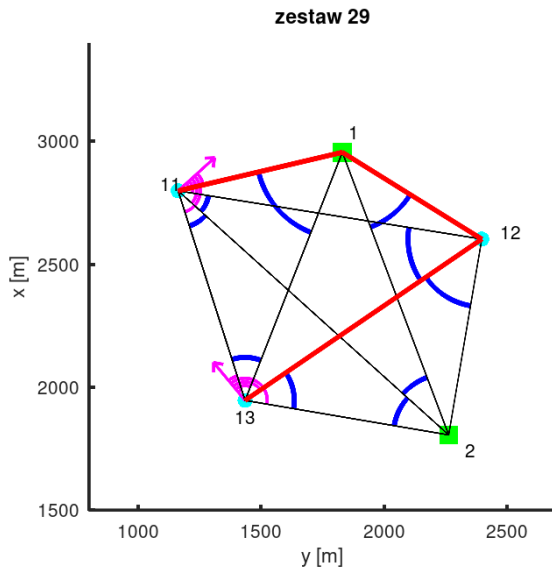
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 14,5       |
| 13 | 1  | 43,47623   | 14,8       |
| 13 | 12 | 81,60037   | 13,6       |
| 13 | 2  | 130,38090  | 14,5       |
| 13 | 11 | 0,00003    | 14,5       |
| 11 | 1  | 0,00000    | 16,7       |
| 11 | 12 | 24,69111   | 17,3       |
| 11 | 2  | 61,38821   | 16,0       |
| 11 | 13 | 94,97031   | 16,7       |
| 11 | 1  | 399,99985  | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69731        | 16,0            |
| 2  | 11 | 13 | 33,58235        | 15,7            |
| 11 | 13 | 1  | 43,47617        | 15,7            |
| 12 | 13 | 2  | 48,78049        | 15,4            |
| 13 | 2  | 11 | 36,03710        | 12,3            |
| 11 | 2  | 1  | 30,35969        | 17,6            |
| 2  | 12 | 13 | 51,25843        | 13,6            |
| 13 | 12 | 11 | 48,12009        | 12,7            |
| 12 | 1  | 2  | 41,65463        | 15,1            |
| 13 | 1  | 11 | 61,55367        | 17,9            |

## Zestaw 29: poglądowy szkic sieci



## Zestaw 30: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2760,374 | 1405,293 |
| 2  | 2393,537 | 2577,318 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,701 | 0,048     |
| 12 | 11 | 1250,420 | 0,063     |
| 11 | 13 | 894,798  | 0,050     |

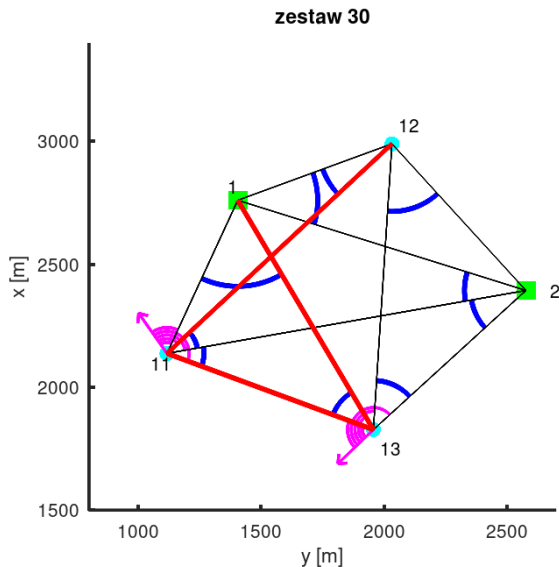
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,7       |
| 13 | 1  | 43,47614   | 13,6       |
| 13 | 12 | 81,60046   | 17,3       |
| 13 | 2  | 130,38043  | 13,3       |
| 13 | 11 | 399,99981  | 15,7       |
| 11 | 1  | 0,00000    | 16,4       |
| 11 | 12 | 24,69093   | 14,5       |
| 11 | 2  | 61,38855   | 15,4       |
| 11 | 13 | 94,97028   | 14,5       |
| 11 | 1  | 0,00003    | 16,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69722        | 16,4            |
| 2  | 11 | 13 | 33,58235        | 15,7            |
| 11 | 13 | 1  | 43,47583        | 10,8            |
| 12 | 13 | 2  | 48,78012        | 12,3            |
| 13 | 2  | 11 | 36,03710        | 10,5            |
| 11 | 2  | 1  | 30,35975        | 17,0            |
| 2  | 12 | 13 | 51,25833        | 18,2            |
| 11 | 12 | 1  | 25,40185        | 13,6            |
| 12 | 1  | 2  | 41,65512        | 17,6            |
| 13 | 1  | 11 | 61,55364        | 18,5            |

## Zestaw 30: poglądowy szkic sieci



## Zestaw 31: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2888,046 | 1558,088 |
| 2  | 2117,186 | 2514,115 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,696 | 0,048     |
| 12 | 13 | 1164,921 | 0,063     |
| 11 | 13 | 894,794  | 0,051     |

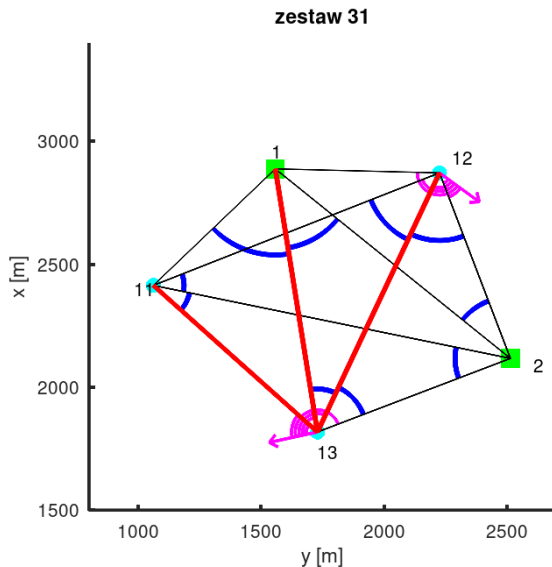
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25836   | 17,9       |
| 12 | 11 | 99,37864   | 16,0       |
| 12 | 1  | 124,78028  | 17,6       |
| 12 | 2  | 399,99997  | 15,1       |
| 13 | 11 | 0,00000    | 13,6       |
| 13 | 1  | 43,47586   | 17,9       |
| 13 | 12 | 81,60046   | 12,7       |
| 13 | 2  | 130,38046  | 15,4       |
| 13 | 11 | 0,00015    | 13,6       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69716        | 14,5            |
| 2  | 11 | 13 | 33,58228        | 13,9            |
| 1  | 13 | 12 | 38,12438        | 16,0            |
| 12 | 13 | 2  | 48,78062        | 13,0            |
| 13 | 2  | 11 | 36,03713        | 12,0            |
| 1  | 2  | 12 | 33,56444        | 15,1            |
| 2  | 12 | 13 | 51,25812        | 14,8            |
| 13 | 12 | 11 | 48,12009        | 18,5            |
| 2  | 1  | 13 | 46,69852        | 13,3            |
| 13 | 1  | 11 | 61,55327        | 18,8            |

## Zestaw 31: poglądowy szkic sieci



## Zestaw 32: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2524,858 | 2341,632 |
| 2  | 1853,831 | 1313,072 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,815  | 0,040     |
| 12 | 13 | 1164,923 | 0,067     |
| 2  | 13 | 839,838  | 0,038     |

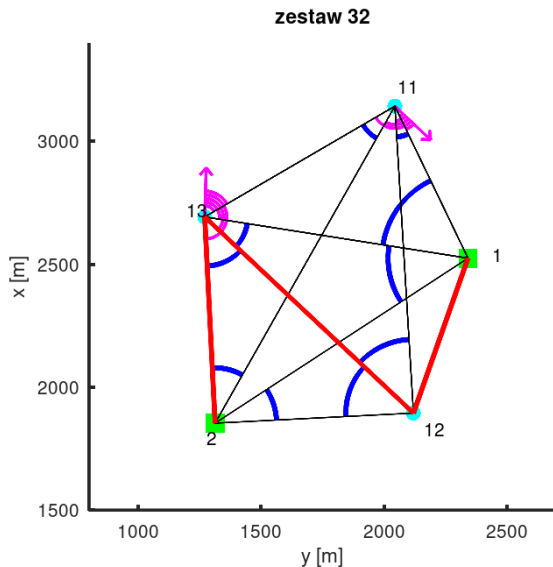
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 19,1       |
| 11 | 12 | 24,69130   | 13,9       |
| 11 | 2  | 61,38846   | 16,7       |
| 11 | 13 | 94,97049   | 14,2       |
| 11 | 1  | 399,99997  | 19,1       |
| 13 | 11 | 0,00000    | 16,7       |
| 13 | 1  | 43,47599   | 17,9       |
| 13 | 12 | 81,60012   | 13,3       |
| 13 | 2  | 130,38046  | 14,5       |
| 13 | 11 | 0,00012    | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69117        | 18,8            |
| 2  | 11 | 13 | 33,58225        | 18,8            |
| 1  | 13 | 12 | 38,12444        | 12,3            |
| 12 | 13 | 2  | 48,78062        | 13,3            |
| 13 | 2  | 11 | 36,03704        | 14,8            |
| 1  | 2  | 12 | 33,56463        | 16,4            |
| 2  | 12 | 13 | 51,25812        | 16,4            |
| 13 | 12 | 11 | 48,12006        | 16,0            |
| 2  | 1  | 13 | 46,69840        | 14,8            |
| 13 | 1  | 11 | 61,55380        | 17,0            |

## Zestaw 32: poglądowy szkic sieci



## Zestaw 33: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2681,649 | 2284,157 |
| 2  | 1725,622 | 1513,297 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,012  | 0,044     |
| 12 | 13 | 1164,919 | 0,068     |
| 2  | 11 | 1482,000 | 0,066     |

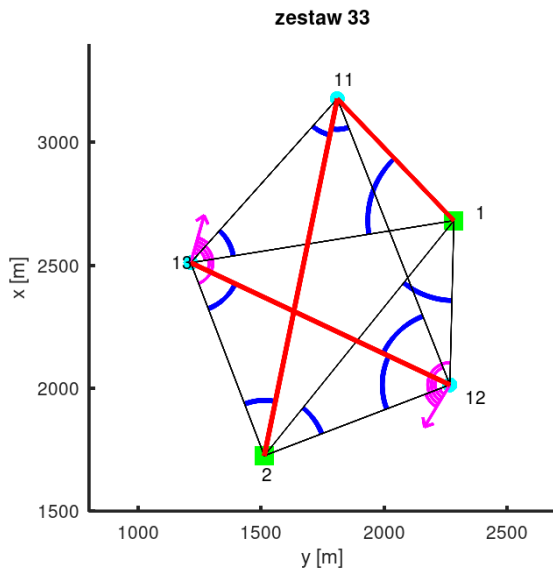
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,1       |
| 13 | 1  | 43,47580   | 14,5       |
| 13 | 12 | 81,60022   | 16,0       |
| 13 | 2  | 130,38083  | 14,2       |
| 13 | 11 | 0,00025    | 15,1       |
| 12 | 2  | 0,00000    | 15,7       |
| 12 | 13 | 51,25790   | 15,7       |
| 12 | 11 | 99,37873   | 17,0       |
| 12 | 1  | 124,78028  | 15,7       |
| 12 | 2  | 0,00003    | 15,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69750        | 16,4            |
| 2  | 11 | 13 | 33,58219        | 15,4            |
| 11 | 13 | 1  | 43,47630        | 10,5            |
| 12 | 13 | 2  | 48,78028        | 17,0            |
| 13 | 2  | 11 | 36,03750        | 15,7            |
| 1  | 2  | 12 | 33,56451        | 17,9            |
| 2  | 12 | 13 | 51,25830        | 18,8            |
| 13 | 12 | 11 | 48,12006        | 15,1            |
| 12 | 1  | 2  | 41,65506        | 17,0            |
| 13 | 1  | 11 | 61,55373        | 15,7            |

## Zestaw 33: poglądowy szkic sieci



## Zestaw 34: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2953,423 | 1770,186 |
| 2  | 1860,356 | 2330,023 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,402 | 0,061     |
| 12 | 2  | 807,796  | 0,041     |
| 11 | 13 | 894,793  | 0,050     |

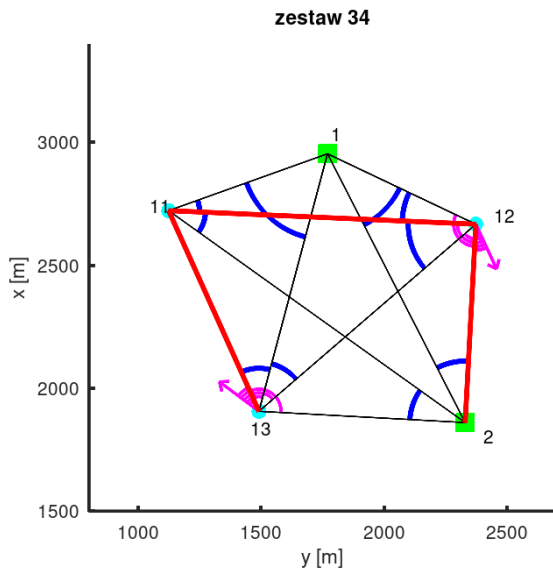
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 18,2       |
| 12 | 13 | 51,25836   | 17,9       |
| 12 | 11 | 99,37864   | 17,6       |
| 12 | 1  | 124,78025  | 17,6       |
| 12 | 2  | 399,99994  | 18,2       |
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47620   | 18,5       |
| 13 | 12 | 81,60006   | 16,7       |
| 13 | 2  | 130,38093  | 18,5       |
| 13 | 11 | 0,00028    | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69117        | 18,8            |
| 12 | 11 | 2  | 36,69756        | 17,0            |
| 11 | 13 | 1  | 43,47633        | 11,7            |
| 1  | 13 | 12 | 38,12401        | 12,3            |
| 13 | 2  | 11 | 36,03701        | 15,7            |
| 1  | 2  | 12 | 33,56448        | 15,4            |
| 13 | 12 | 11 | 48,12028        | 17,0            |
| 11 | 12 | 1  | 25,40207        | 18,8            |
| 12 | 1  | 2  | 41,65506        | 17,3            |
| 13 | 1  | 11 | 61,55364        | 17,0            |

## Zestaw 34: poglądowy szkic sieci



## Zestaw 35: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1891,634 | 1879,562 |
| 2  | 2969,672 | 1291,303 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,690 | 0,053     |
| 12 | 11 | 1250,414 | 0,060     |
| 12 | 2  | 807,788  | 0,040     |

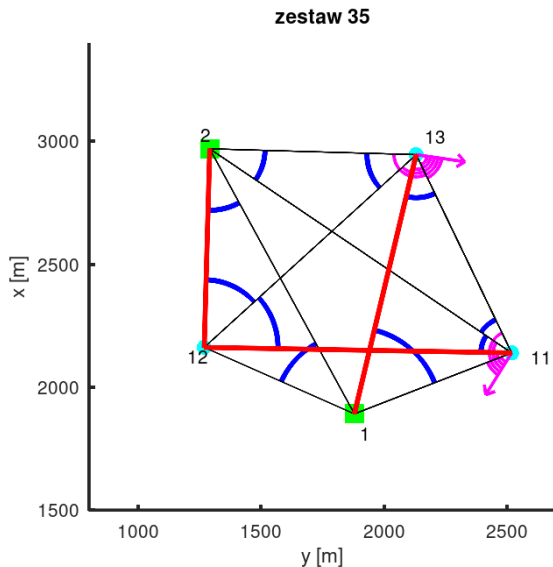
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 13,9       |
| 13 | 1  | 43,47611   | 16,7       |
| 13 | 12 | 81,60056   | 16,7       |
| 13 | 2  | 130,38046  | 16,0       |
| 13 | 11 | 0,00019    | 13,9       |
| 11 | 1  | 0,00000    | 16,4       |
| 11 | 12 | 24,69090   | 18,2       |
| 11 | 2  | 61,38821   | 15,7       |
| 11 | 13 | 94,97052   | 14,5       |
| 11 | 1  | 399,99972  | 16,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69713        | 14,2            |
| 2  | 11 | 13 | 33,58188        | 16,7            |
| 11 | 13 | 1  | 43,47636        | 12,3            |
| 12 | 13 | 2  | 48,78015        | 17,3            |
| 13 | 2  | 11 | 36,03691        | 15,7            |
| 1  | 2  | 12 | 33,56475        | 18,8            |
| 2  | 12 | 13 | 51,25833        | 17,6            |
| 13 | 12 | 11 | 48,12003        | 16,7            |
| 12 | 1  | 2  | 41,65515        | 18,2            |
| 13 | 1  | 11 | 61,55377        | 15,4            |

## Zestaw 35: poglądowy szkic sieci



## Zestaw 36: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2624,939 | 1324,337 |
| 2  | 2616,798 | 2552,403 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,813  | 0,035     |
| 12 | 13 | 1164,917 | 0,068     |
| 2  | 13 | 839,844  | 0,039     |

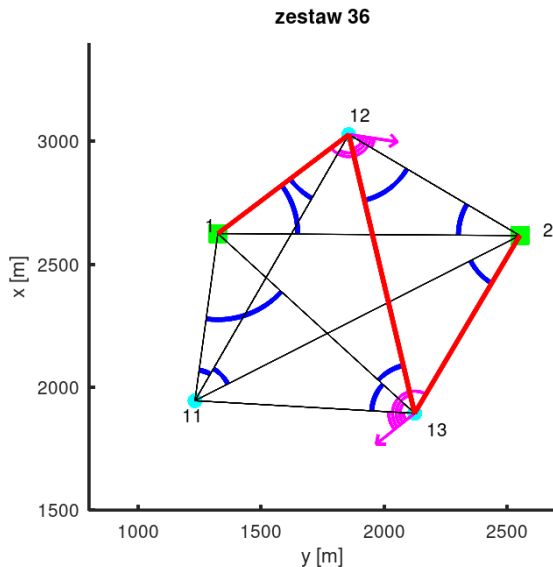
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 16,0       |
| 12 | 13 | 51,25833   | 18,8       |
| 12 | 11 | 99,37849   | 18,2       |
| 12 | 1  | 124,78015  | 16,7       |
| 12 | 2  | 0,00015    | 16,0       |
| 13 | 11 | 0,00000    | 17,3       |
| 13 | 1  | 43,47586   | 19,1       |
| 13 | 12 | 81,60052   | 16,7       |
| 13 | 2  | 130,38093  | 17,9       |
| 13 | 11 | 0,00022    | 17,3       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69120        | 16,7            |
| 12 | 11 | 2  | 36,69756        | 16,7            |
| 11 | 13 | 1  | 43,47636        | 14,2            |
| 1  | 13 | 12 | 38,12420        | 13,6            |
| 13 | 2  | 11 | 36,03710        | 12,0            |
| 1  | 2  | 12 | 33,56491        | 15,4            |
| 2  | 12 | 13 | 51,25836        | 14,5            |
| 11 | 12 | 1  | 25,40185        | 17,9            |
| 12 | 1  | 2  | 41,65463        | 13,6            |
| 13 | 1  | 11 | 61,55364        | 19,1            |

## Zestaw 36: poglądowy szkic sieci



## Zestaw 37: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2460,266 | 2350,287 |
| 2  | 1919,591 | 1247,616 |

### Obserwacje odległości

| p | k  | d [m]    | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 12 | 667,804  | 0,036     |
| 2 | 11 | 1482,011 | 0,071     |
| 2 | 13 | 839,850  | 0,043     |

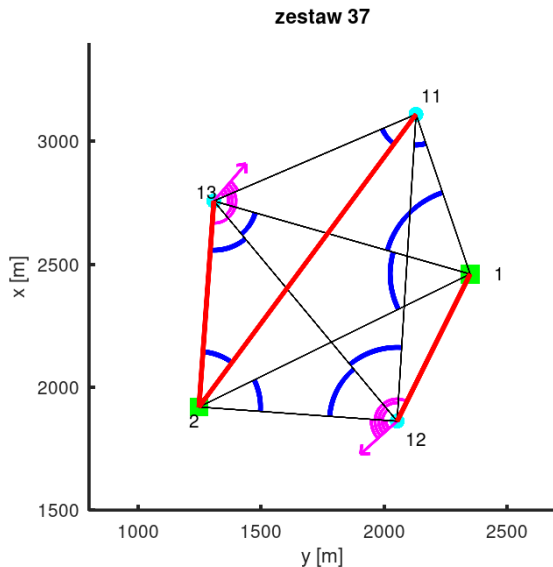
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 19,4       |
| 13 | 1  | 43,47614   | 19,4       |
| 13 | 12 | 81,60003   | 17,9       |
| 13 | 2  | 130,38059  | 14,8       |
| 13 | 11 | 0,00012    | 19,4       |
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25812   | 15,7       |
| 12 | 11 | 99,37840   | 17,9       |
| 12 | 1  | 124,78062  | 13,3       |
| 12 | 2  | 0,00012    | 15,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69099        | 18,8            |
| 2  | 11 | 13 | 33,58198        | 18,5            |
| 1  | 13 | 12 | 38,12410        | 14,5            |
| 12 | 13 | 2  | 48,78009        | 13,3            |
| 13 | 2  | 11 | 36,03725        | 13,3            |
| 1  | 2  | 12 | 33,56475        | 18,5            |
| 2  | 12 | 13 | 51,25787        | 17,9            |
| 13 | 12 | 11 | 48,12025        | 14,5            |
| 2  | 1  | 13 | 46,69833        | 16,4            |
| 13 | 1  | 11 | 61,55346        | 13,6            |

## Zestaw 37: poglądowy szkic sieci



## Zestaw 38: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2273,516 | 1305,190 |
| 2  | 3031,634 | 2271,352 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,011  | 0,036     |
| 12 | 13 | 1164,916 | 0,064     |
| 12 | 2  | 807,796  | 0,039     |

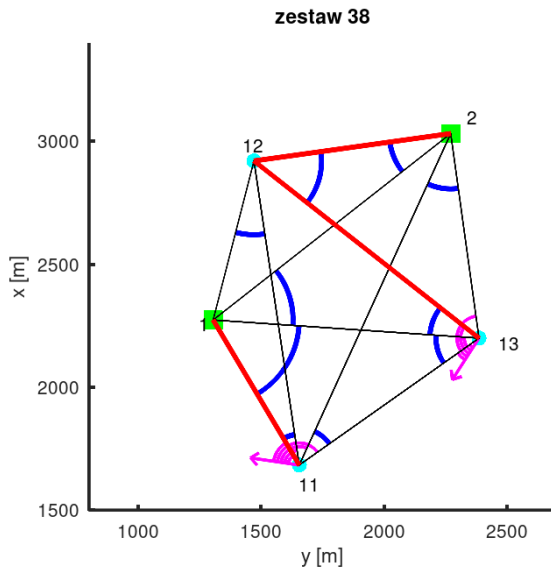
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 18,2       |
| 11 | 12 | 24,69127   | 16,0       |
| 11 | 2  | 61,38827   | 12,7       |
| 11 | 13 | 94,97056   | 17,3       |
| 11 | 1  | 399,99994  | 18,2       |
| 13 | 11 | 0,00000    | 17,9       |
| 13 | 1  | 43,47614   | 17,9       |
| 13 | 12 | 81,60009   | 16,0       |
| 13 | 2  | 130,38083  | 13,6       |
| 13 | 11 | 399,99972  | 17,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69077        | 17,0            |
| 2  | 11 | 13 | 33,58191        | 15,4            |
| 11 | 13 | 1  | 43,47593        | 10,8            |
| 1  | 13 | 12 | 38,12432        | 15,7            |
| 13 | 2  | 11 | 36,03719        | 13,9            |
| 1  | 2  | 12 | 33,56463        | 13,3            |
| 2  | 12 | 13 | 51,25830        | 14,5            |
| 11 | 12 | 1  | 25,40179        | 15,7            |
| 2  | 1  | 13 | 46,69892        | 15,4            |
| 13 | 1  | 11 | 61,55358        | 13,9            |

## Zestaw 38: poglądowy szkic sieci



## Zestaw 39: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1911,745 | 1975,147 |
| 2  | 2864,529 | 1200,282 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,915 | 0,067     |
| 12 | 2  | 807,789  | 0,044     |
| 11 | 13 | 894,793  | 0,044     |

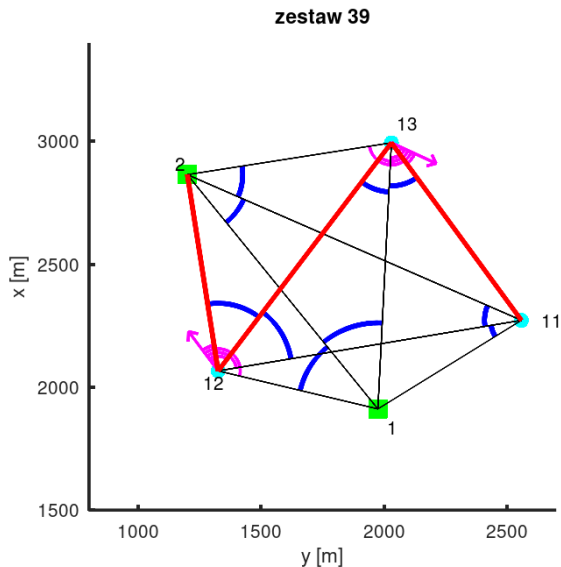
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 16,4       |
| 12 | 13 | 51,25843   | 15,4       |
| 12 | 11 | 99,37870   | 13,6       |
| 12 | 1  | 124,78006  | 13,9       |
| 12 | 2  | 0,00003    | 16,4       |
| 13 | 11 | 0,00000    | 14,2       |
| 13 | 1  | 43,47580   | 17,6       |
| 13 | 12 | 81,60034   | 17,3       |
| 13 | 2  | 130,38077  | 13,9       |
| 13 | 11 | 0,00009    | 14,2       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69130        | 14,2            |
| 12 | 11 | 2  | 36,69753        | 16,7            |
| 11 | 13 | 1  | 43,47623        | 14,5            |
| 1  | 13 | 12 | 38,12401        | 12,0            |
| 13 | 2  | 11 | 36,03698        | 10,2            |
| 11 | 2  | 1  | 30,35951        | 15,4            |
| 2  | 12 | 13 | 51,25833        | 15,1            |
| 13 | 12 | 11 | 48,12025        | 17,3            |
| 12 | 1  | 2  | 41,65519        | 18,8            |
| 2  | 1  | 13 | 46,69880        | 12,7            |

## Zestaw 39: poglądowy szkic sieci



## Zestaw 40: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1967,357 | 2097,850 |
| 2  | 2695,782 | 1109,108 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,019  | 0,039     |
| 12 | 13 | 1164,923 | 0,063     |
| 2  | 13 | 839,851  | 0,038     |

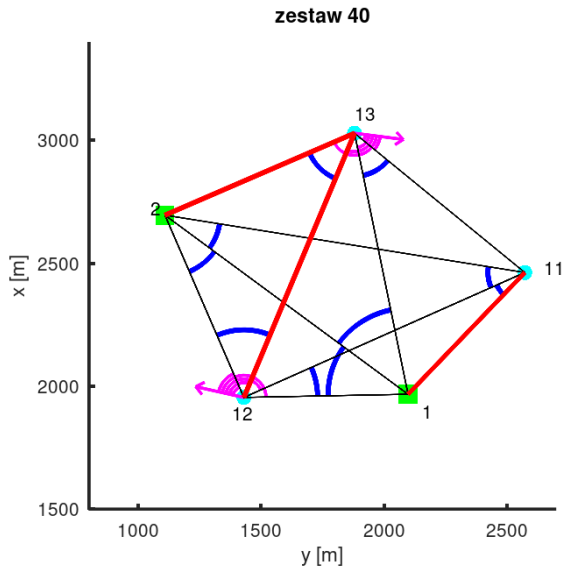
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 17,6       |
| 12 | 13 | 51,25836   | 19,1       |
| 12 | 11 | 99,37861   | 17,0       |
| 12 | 1  | 124,78043  | 13,9       |
| 12 | 2  | 399,99969  | 17,6       |
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47590   | 15,1       |
| 13 | 12 | 81,60025   | 15,1       |
| 13 | 2  | 130,38059  | 15,7       |
| 13 | 11 | 0,00015    | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69114        | 15,4            |
| 12 | 11 | 2  | 36,69731        | 17,6            |
| 11 | 13 | 1  | 43,47605        | 12,7            |
| 12 | 13 | 2  | 48,78052        | 13,6            |
| 11 | 2  | 1  | 30,35978        | 17,6            |
| 1  | 2  | 12 | 33,56475        | 16,0            |
| 2  | 12 | 13 | 51,25836        | 17,6            |
| 11 | 12 | 1  | 25,40167        | 17,9            |
| 12 | 1  | 2  | 41,65515        | 19,1            |
| 2  | 1  | 13 | 46,69883        | 18,5            |

## Zestaw 40: poglądowy szkic sieci



## Zestaw 41: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1889,280 | 1781,913 |
| 2  | 3056,467 | 1399,961 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,402 | 0,059     |
| 12 | 2  | 807,800  | 0,043     |
| 11 | 13 | 894,800  | 0,052     |

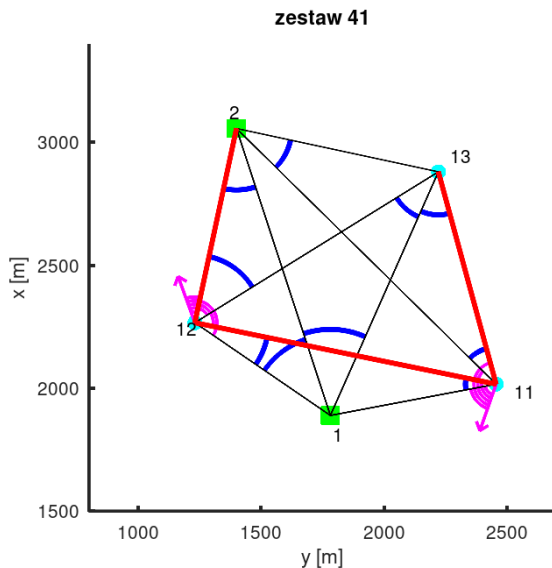
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69120   | 15,1       |
| 11 | 2  | 61,38840   | 14,5       |
| 11 | 13 | 94,97043   | 18,2       |
| 11 | 1  | 399,99988  | 17,9       |
| 12 | 2  | 0,00000    | 14,8       |
| 12 | 13 | 51,25793   | 14,2       |
| 12 | 11 | 99,37861   | 15,7       |
| 12 | 1  | 124,78062  | 17,6       |
| 12 | 2  | 399,99994  | 14,8       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69123        | 17,9            |
| 2  | 11 | 13 | 33,58179        | 17,3            |
| 11 | 13 | 1  | 43,47605        | 14,2            |
| 1  | 13 | 12 | 38,12395        | 14,2            |
| 13 | 2  | 11 | 36,03731        | 12,3            |
| 1  | 2  | 12 | 33,56469        | 16,0            |
| 2  | 12 | 13 | 51,25809        | 16,4            |
| 11 | 12 | 1  | 25,40170        | 19,1            |
| 12 | 1  | 2  | 41,65469        | 18,2            |
| 2  | 1  | 13 | 46,69833        | 13,6            |

## Zestaw 41: poglądowy szkic sieci



## Zestaw 42: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2070,719 | 1415,902 |
| 2  | 3166,126 | 1971,148 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,805  | 0,039     |
| 1  | 11 | 686,020  | 0,041     |
| 12 | 11 | 1250,419 | 0,066     |

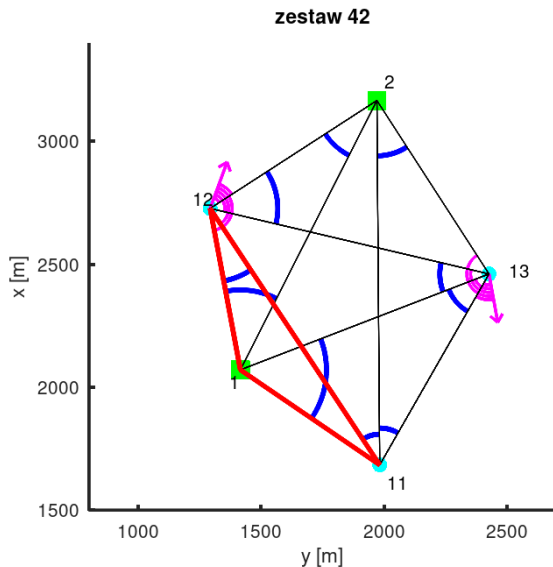
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 14,8       |
| 13 | 1  | 43,47602   | 17,3       |
| 13 | 12 | 81,60049   | 13,9       |
| 13 | 2  | 130,38077  | 15,4       |
| 13 | 11 | 399,99981  | 14,8       |
| 12 | 2  | 0,00000    | 17,3       |
| 12 | 13 | 51,25818   | 13,9       |
| 12 | 11 | 99,37833   | 16,4       |
| 12 | 1  | 124,78059  | 15,4       |
| 12 | 2  | 399,99969  | 17,3       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69744        | 13,9            |
| 2  | 11 | 13 | 33,58188        | 17,3            |
| 11 | 13 | 1  | 43,47590        | 12,3            |
| 1  | 13 | 12 | 38,12398        | 15,4            |
| 13 | 2  | 11 | 36,03716        | 13,6            |
| 1  | 2  | 12 | 33,56469        | 13,6            |
| 2  | 12 | 13 | 51,25815        | 13,3            |
| 11 | 12 | 1  | 25,40173        | 14,2            |
| 12 | 1  | 2  | 41,65475        | 19,1            |
| 13 | 1  | 11 | 61,55352        | 17,0            |

## Zestaw 42: poglądowy szkic sieci



## Zestaw 43: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2492,694 | 2346,946 |
| 2  | 1885,711 | 1279,339 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 11 | 686,020 | 0,037     |
| 2  | 13 | 839,835 | 0,043     |
| 11 | 13 | 894,795 | 0,045     |

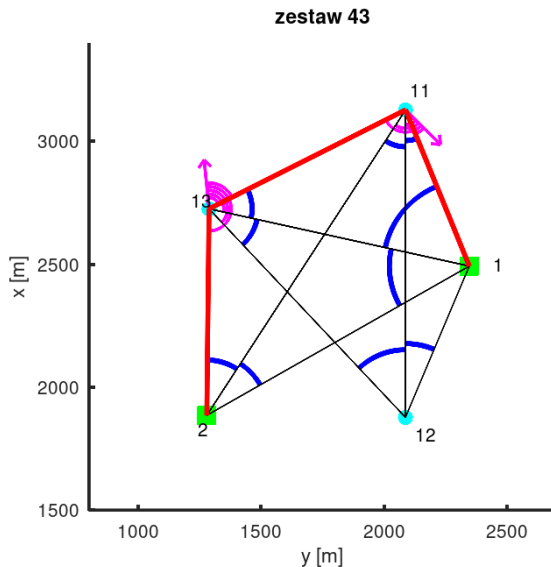
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 13,9       |
| 11 | 12 | 24,69071   | 13,6       |
| 11 | 2  | 61,38812   | 14,2       |
| 11 | 13 | 94,97043   | 14,8       |
| 11 | 1  | 0,00012    | 13,9       |
| 13 | 11 | 0,00000    | 15,4       |
| 13 | 1  | 43,47611   | 18,8       |
| 13 | 12 | 81,60046   | 14,2       |
| 13 | 2  | 130,38065  | 17,0       |
| 13 | 11 | 399,99981  | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69080        | 18,5            |
| 12 | 11 | 2  | 36,69750        | 13,6            |
| 11 | 13 | 1  | 43,47614        | 15,4            |
| 1  | 13 | 12 | 38,12448        | 13,9            |
| 13 | 2  | 11 | 36,03741        | 15,4            |
| 11 | 2  | 1  | 30,35960        | 16,7            |
| 13 | 12 | 11 | 48,12037        | 15,7            |
| 11 | 12 | 1  | 25,40198        | 17,6            |
| 2  | 1  | 13 | 46,69849        | 16,7            |
| 13 | 1  | 11 | 61,55377        | 14,8            |

## Zestaw 43: poglądowy szkic sieci



## Zestaw 44: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2236,037 | 2318,300 |
| 2  | 2201,313 | 1090,697 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 12 | 667,813  | 0,041     |
| 1 | 11 | 686,018  | 0,037     |
| 2 | 11 | 1482,000 | 0,071     |

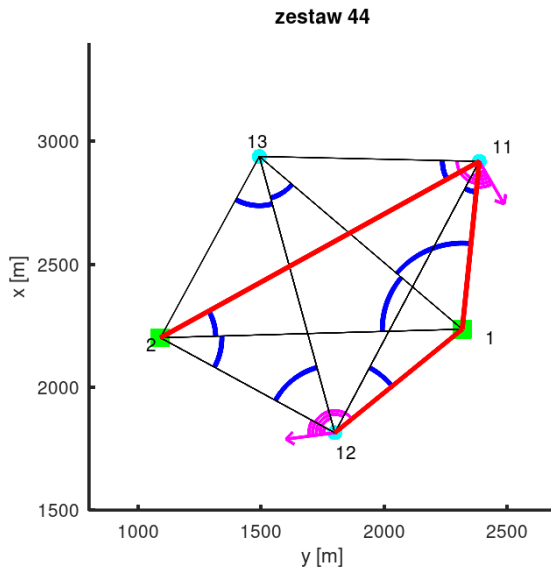
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25796   | 17,3       |
| 12 | 11 | 99,37870   | 13,6       |
| 12 | 1  | 124,78056  | 14,5       |
| 12 | 2  | 399,99972  | 16,7       |
| 11 | 1  | 0,00000    | 13,6       |
| 11 | 12 | 24,69120   | 15,1       |
| 11 | 2  | 61,38815   | 16,0       |
| 11 | 13 | 94,97043   | 17,6       |
| 11 | 1  | 0,00028    | 13,6       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69096        | 14,8            |
| 2  | 11 | 13 | 33,58210        | 14,5            |
| 1  | 13 | 12 | 38,12432        | 14,8            |
| 12 | 13 | 2  | 48,78059        | 13,3            |
| 11 | 2  | 1  | 30,35960        | 16,4            |
| 1  | 2  | 12 | 33,56494        | 17,6            |
| 2  | 12 | 13 | 51,25827        | 14,5            |
| 11 | 12 | 1  | 25,40210        | 17,0            |
| 2  | 1  | 13 | 46,69846        | 13,3            |
| 13 | 1  | 11 | 61,55383        | 17,3            |

## Zestaw 44: poglądowy szkic sieci



## Zestaw 45: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2429,904 | 1284,236 |
| 2  | 2872,418 | 2429,834 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,812  | 0,035     |
| 12 | 2  | 807,794  | 0,042     |
| 2  | 11 | 1482,000 | 0,067     |

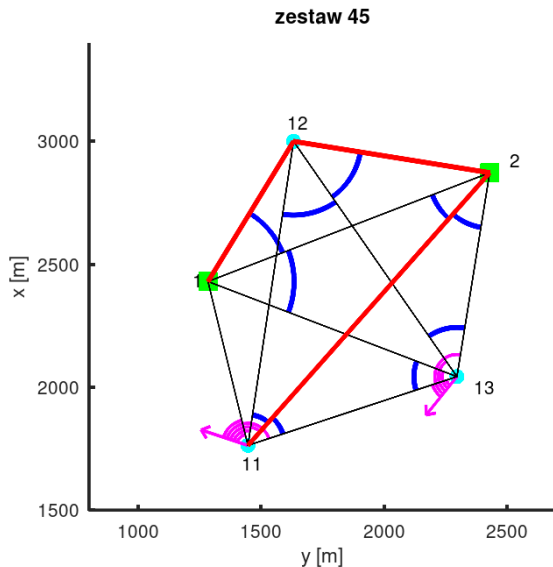
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 18,8       |
| 11 | 12 | 24,69105   | 14,5       |
| 11 | 2  | 61,38809   | 12,3       |
| 11 | 13 | 94,97043   | 17,6       |
| 11 | 1  | 399,99969  | 18,8       |
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47627   | 18,2       |
| 13 | 12 | 81,60015   | 12,3       |
| 13 | 2  | 130,38099  | 13,3       |
| 13 | 11 | 399,99994  | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69747        | 13,6            |
| 2  | 11 | 13 | 33,58179        | 18,8            |
| 11 | 13 | 1  | 43,47599        | 11,1            |
| 12 | 13 | 2  | 48,78040        | 11,4            |
| 13 | 2  | 11 | 36,03698        | 12,3            |
| 11 | 2  | 1  | 30,35954        | 13,3            |
| 2  | 12 | 13 | 51,25787        | 18,8            |
| 13 | 12 | 11 | 48,12052        | 18,2            |
| 12 | 1  | 2  | 41,65472        | 17,0            |
| 2  | 1  | 13 | 46,69836        | 18,5            |

# Zestaw 45: poglądowy szkic sieci



## Zestaw 46: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1888,986 | 1786,561 |
| 2  | 3052,795 | 1394,439 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,687 | 0,049     |
| 12 | 2  | 807,794  | 0,042     |
| 2  | 13 | 839,839  | 0,039     |

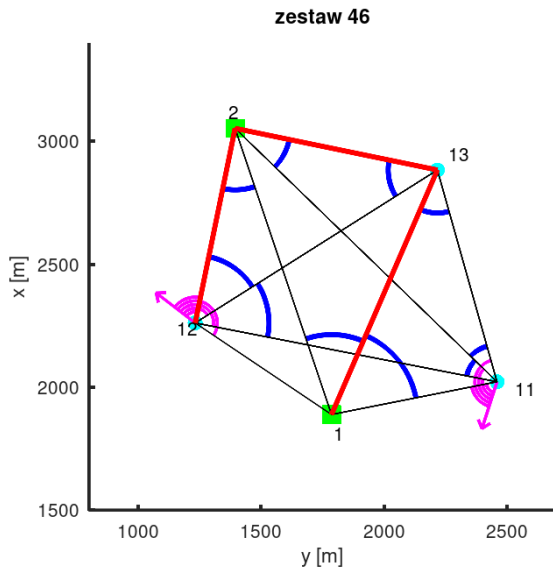
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 17,3       |
| 12 | 13 | 51,25806   | 15,4       |
| 12 | 11 | 99,37815   | 14,8       |
| 12 | 1  | 124,78046  | 18,5       |
| 12 | 2  | 0,00012    | 17,3       |
| 11 | 1  | 0,00000    | 17,3       |
| 11 | 12 | 24,69096   | 17,3       |
| 11 | 2  | 61,38855   | 16,7       |
| 11 | 13 | 94,97022   | 15,4       |
| 11 | 1  | 399,99991  | 17,3       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69725        | 14,5            |
| 2  | 11 | 13 | 33,58198        | 15,1            |
| 11 | 13 | 1  | 43,47614        | 14,2            |
| 12 | 13 | 2  | 48,78040        | 13,9            |
| 13 | 2  | 11 | 36,03719        | 15,4            |
| 1  | 2  | 12 | 33,56491        | 14,5            |
| 2  | 12 | 13 | 51,25840        | 16,7            |
| 13 | 12 | 11 | 48,12034        | 14,8            |
| 2  | 1  | 13 | 46,69855        | 15,7            |
| 13 | 1  | 11 | 61,55383        | 14,8            |

## Zestaw 46: poglądowy szkic sieci



## Zestaw 47: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2935,822 | 1674,107 |
| 2  | 1963,080 | 2423,765 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,689 | 0,047     |
| 1  | 11 | 686,019  | 0,042     |
| 12 | 13 | 1164,918 | 0,062     |

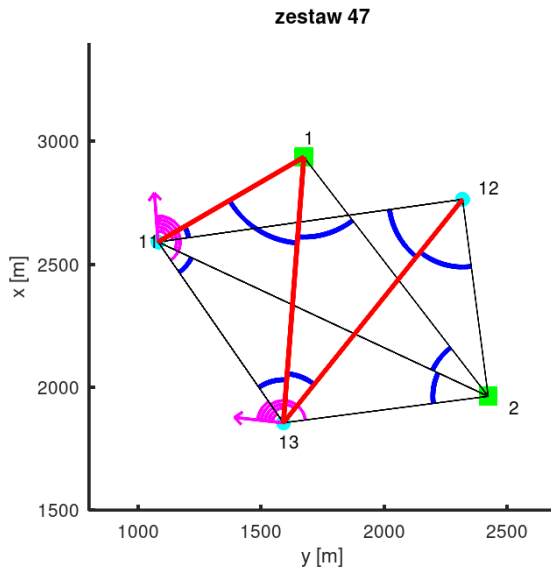
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,4       |
| 13 | 1  | 43,47586   | 13,9       |
| 13 | 12 | 81,60019   | 14,2       |
| 13 | 2  | 130,38080  | 15,7       |
| 13 | 11 | 399,99985  | 15,4       |
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69130   | 18,5       |
| 11 | 2  | 61,38802   | 14,2       |
| 11 | 13 | 94,97046   | 18,5       |
| 11 | 1  | 399,99972  | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69090        | 17,0            |
| 2  | 11 | 13 | 33,58179        | 15,7            |
| 11 | 13 | 1  | 43,47611        | 13,9            |
| 1  | 13 | 12 | 38,12414        | 13,6            |
| 13 | 2  | 11 | 36,03744        | 11,4            |
| 11 | 2  | 1  | 30,35975        | 13,0            |
| 2  | 12 | 13 | 51,25812        | 16,4            |
| 13 | 12 | 11 | 48,12012        | 17,9            |
| 2  | 1  | 13 | 46,69864        | 18,5            |
| 13 | 1  | 11 | 61,55324        | 16,4            |

## Zestaw 47: poglądowy szkic sieci



## Zestaw 48: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2529,424 | 2340,713 |
| 2  | 1849,447 | 1318,048 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 13 | 1083,691 | 0,050     |
| 1 | 11 | 686,021  | 0,041     |
| 2 | 11 | 1482,003 | 0,071     |

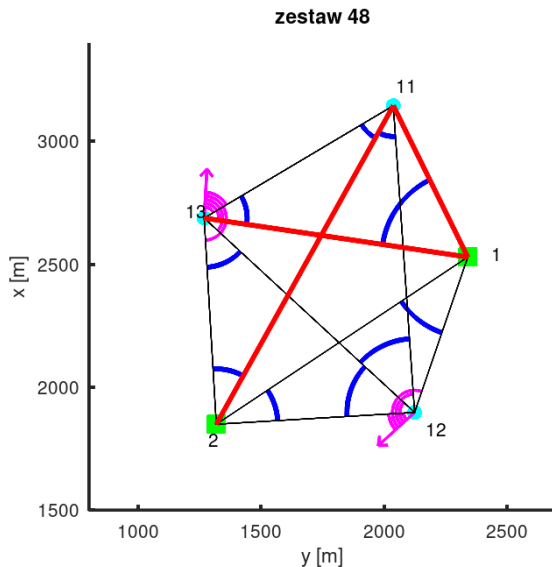
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,9       |
| 13 | 1  | 43,47633   | 17,9       |
| 13 | 12 | 81,60046   | 13,3       |
| 13 | 2  | 130,38083  | 14,5       |
| 13 | 11 | 399,99975  | 17,9       |
| 12 | 2  | 0,00000    | 17,0       |
| 12 | 13 | 51,25818   | 16,7       |
| 12 | 11 | 99,37836   | 15,4       |
| 12 | 1  | 124,78028  | 17,0       |
| 12 | 2  | 399,99985  | 17,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69704        | 16,4            |
| 2  | 11 | 13 | 33,58188        | 17,9            |
| 11 | 13 | 1  | 43,47602        | 15,1            |
| 12 | 13 | 2  | 48,78034        | 17,0            |
| 13 | 2  | 11 | 36,03691        | 10,5            |
| 1  | 2  | 12 | 33,56457        | 13,9            |
| 2  | 12 | 13 | 51,25796        | 16,7            |
| 13 | 12 | 11 | 48,12034        | 16,4            |
| 12 | 1  | 2  | 41,65491        | 14,2            |
| 13 | 1  | 11 | 61,55343        | 17,3            |

## Zestaw 48: poglądowy szkic sieci



## Zestaw 49: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2369,437 | 1286,751 |
| 2  | 2938,792 | 2374,891 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,419 | 0,061     |
| 12 | 2  | 807,790  | 0,041     |
| 2  | 11 | 1481,994 | 0,075     |

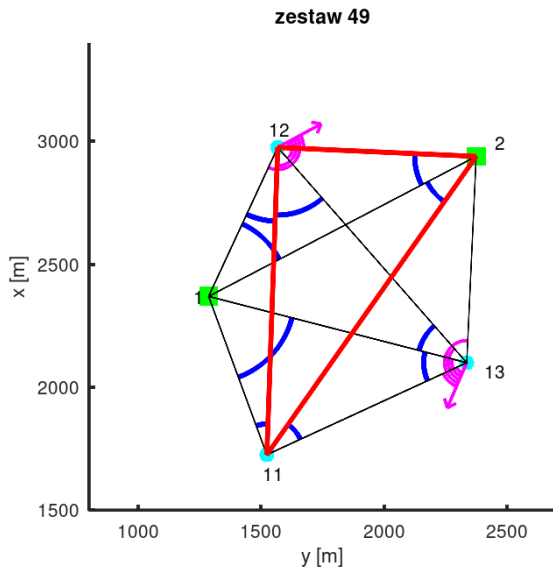
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 18,2       |
| 12 | 13 | 51,25833   | 18,5       |
| 12 | 11 | 99,37815   | 16,4       |
| 12 | 1  | 124,78019  | 14,5       |
| 12 | 2  | 0,00006    | 18,2       |
| 13 | 11 | 0,00000    | 16,4       |
| 13 | 1  | 43,47590   | 17,6       |
| 13 | 12 | 81,60000   | 17,3       |
| 13 | 2  | 130,38083  | 16,4       |
| 13 | 11 | 0,00003    | 16,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69074        | 19,1            |
| 2  | 11 | 13 | 33,58188        | 14,5            |
| 11 | 13 | 1  | 43,47627        | 10,8            |
| 1  | 13 | 12 | 38,12444        | 12,7            |
| 11 | 2  | 1  | 30,35978        | 15,1            |
| 1  | 2  | 12 | 33,56472        | 16,4            |
| 13 | 12 | 11 | 48,12009        | 17,0            |
| 11 | 12 | 1  | 25,40188        | 18,8            |
| 12 | 1  | 2  | 41,65463        | 15,1            |
| 13 | 1  | 11 | 61,55355        | 19,1            |

## Zestaw 49: poglądowy szkic sieci



## Zestaw 50: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2095,917 | 1395,218 |
| 2  | 3155,383 | 2016,301 |

### Obserwacje odległości

| p | k  | d [m]    | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 12 | 667,799  | 0,039     |
| 1 | 13 | 1083,696 | 0,049     |
| 1 | 11 | 686,012  | 0,040     |

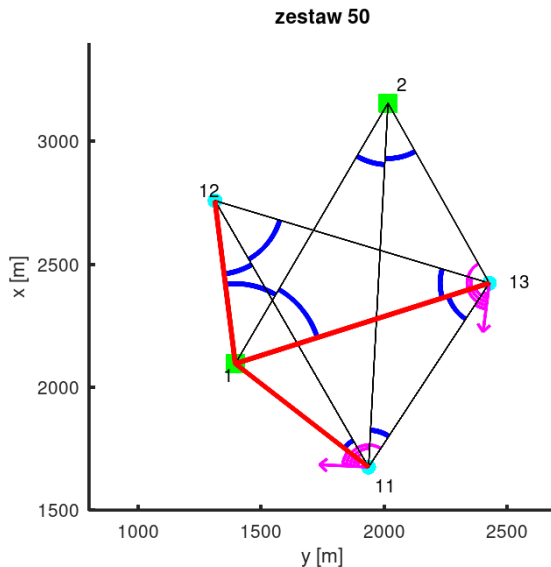
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,4       |
| 13 | 1  | 43,47593   | 19,4       |
| 13 | 12 | 81,60059   | 12,7       |
| 13 | 2  | 130,38086  | 17,6       |
| 13 | 11 | 399,99988  | 16,4       |
| 11 | 1  | 0,00000    | 15,4       |
| 11 | 12 | 24,69130   | 15,1       |
| 11 | 2  | 61,38809   | 17,9       |
| 11 | 13 | 94,97037   | 18,8       |
| 11 | 1  | 0,00028    | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69093        | 13,9            |
| 2  | 11 | 13 | 33,58231        | 16,0            |
| 11 | 13 | 1  | 43,47599        | 12,7            |
| 1  | 13 | 12 | 38,12448        | 13,6            |
| 13 | 2  | 11 | 36,03750        | 15,7            |
| 11 | 2  | 1  | 30,35963        | 16,4            |
| 13 | 12 | 11 | 48,12015        | 13,9            |
| 11 | 12 | 1  | 25,40173        | 17,3            |
| 12 | 1  | 2  | 41,65506        | 18,8            |
| 2  | 1  | 13 | 46,69852        | 17,9            |

## Zestaw 50: poglądowy szkic sieci



## Zestaw 51: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2099,618 | 1392,391 |
| 2  | 3153,624 | 2022,695 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,697 | 0,045     |
| 12 | 11 | 1250,408 | 0,061     |
| 12 | 2  | 807,796  | 0,039     |

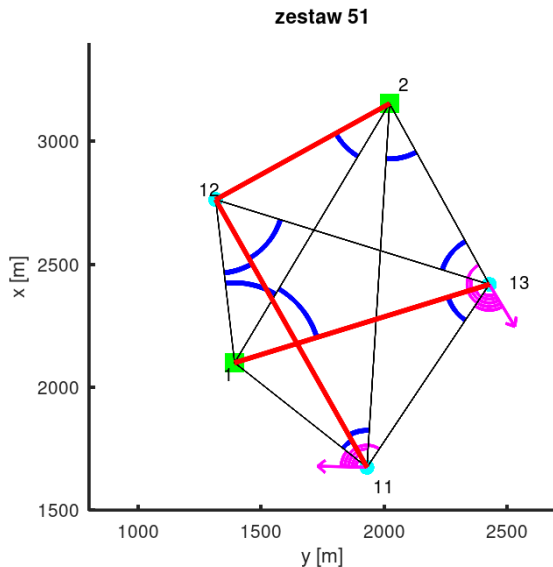
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,6       |
| 11 | 12 | 24,69105   | 15,4       |
| 11 | 2  | 61,38818   | 17,3       |
| 11 | 13 | 94,97034   | 15,7       |
| 11 | 1  | 0,00028    | 17,6       |
| 13 | 11 | 0,00000    | 14,5       |
| 13 | 1  | 43,47602   | 15,4       |
| 13 | 12 | 81,60015   | 13,6       |
| 13 | 2  | 130,38074  | 17,0       |
| 13 | 11 | 399,99978  | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69105        | 14,2            |
| 12 | 11 | 2  | 36,69744        | 15,1            |
| 11 | 13 | 1  | 43,47633        | 12,7            |
| 12 | 13 | 2  | 48,78043        | 12,3            |
| 13 | 2  | 11 | 36,03710        | 14,8            |
| 1  | 2  | 12 | 33,56441        | 14,8            |
| 13 | 12 | 11 | 48,12019        | 13,6            |
| 11 | 12 | 1  | 25,40179        | 17,0            |
| 12 | 1  | 2  | 41,65460        | 13,9            |
| 2  | 1  | 13 | 46,69864        | 12,7            |

# Zestaw 51: poglądowy szkic sieci



## Zestaw 52: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2126,197 | 1373,515 |
| 2  | 3139,758 | 2066,989 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,702 | 0,054     |
| 2  | 11 | 1482,013 | 0,066     |
| 11 | 13 | 894,807  | 0,052     |

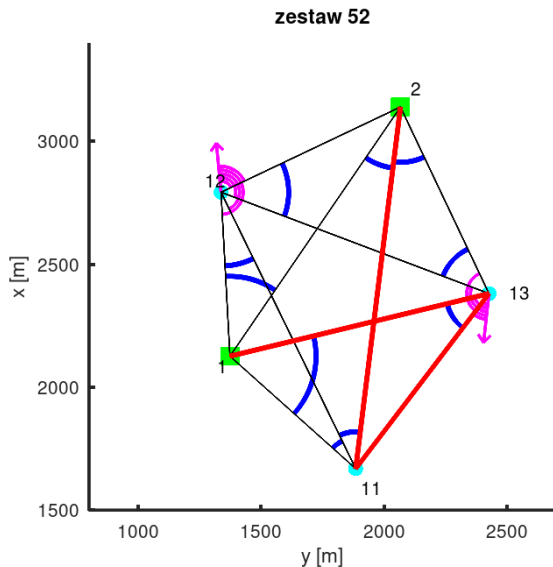
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 19,4       |
| 13 | 1  | 43,47611   | 13,9       |
| 13 | 12 | 81,60052   | 17,3       |
| 13 | 2  | 130,38046  | 15,1       |
| 13 | 11 | 0,00028    | 19,4       |
| 12 | 2  | 0,00000    | 14,5       |
| 12 | 13 | 51,25793   | 14,2       |
| 12 | 11 | 99,37821   | 16,4       |
| 12 | 1  | 124,78049  | 14,8       |
| 12 | 2  | 399,99997  | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69080        | 16,0            |
| 12 | 11 | 2  | 36,69710        | 17,6            |
| 11 | 13 | 1  | 43,47617        | 10,2            |
| 12 | 13 | 2  | 48,78034        | 12,3            |
| 13 | 2  | 11 | 36,03694        | 13,6            |
| 11 | 2  | 1  | 30,35932        | 12,0            |
| 2  | 12 | 13 | 51,25793        | 15,7            |
| 11 | 12 | 1  | 25,40164        | 17,9            |
| 12 | 1  | 2  | 41,65509        | 16,0            |
| 13 | 1  | 11 | 61,55358        | 16,4            |

## Zestaw 52: poglądowy szkic sieci



## Zestaw 53: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2004,859 | 2151,148 |
| 2  | 2607,357 | 1081,003 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,405 | 0,064     |
| 12 | 2  | 807,788  | 0,044     |
| 2  | 11 | 1481,999 | 0,067     |

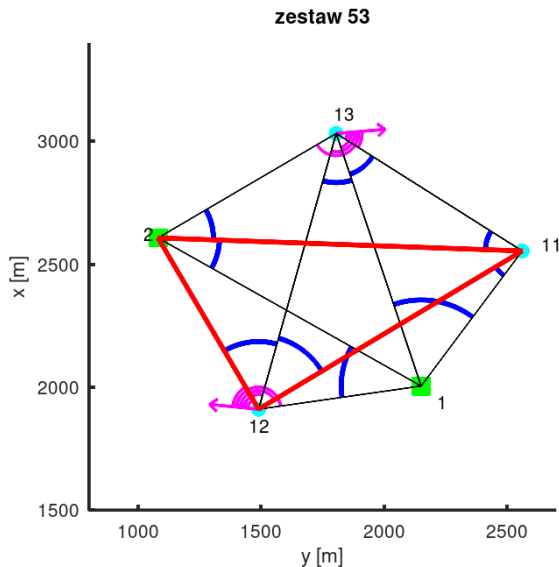
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 18,5       |
| 13 | 1  | 43,47623   | 16,0       |
| 13 | 12 | 81,60000   | 12,3       |
| 13 | 2  | 130,38052  | 13,6       |
| 13 | 11 | 399,99969  | 18,5       |
| 12 | 2  | 0,00000    | 17,9       |
| 12 | 13 | 51,25821   | 17,6       |
| 12 | 11 | 99,37840   | 13,3       |
| 12 | 1  | 124,78046  | 17,3       |
| 12 | 2  | 0,00019    | 17,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69080        | 19,1            |
| 2  | 11 | 13 | 33,58204        | 18,8            |
| 11 | 13 | 1  | 43,47614        | 16,0            |
| 1  | 13 | 12 | 38,12435        | 17,3            |
| 13 | 2  | 11 | 36,03710        | 12,7            |
| 11 | 2  | 1  | 30,35951        | 15,7            |
| 2  | 12 | 13 | 51,25812        | 15,7            |
| 13 | 12 | 11 | 48,12059        | 17,3            |
| 12 | 1  | 2  | 41,65503        | 14,2            |
| 13 | 1  | 11 | 61,55383        | 14,8            |

## Zestaw 53: poglądowy szkic sieci



## Zestaw 54: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2434,561 | 1284,327 |
| 2  | 2867,061 | 2433,743 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,689 | 0,048     |
| 12 | 11 | 1250,418 | 0,062     |
| 2  | 13 | 839,845  | 0,044     |

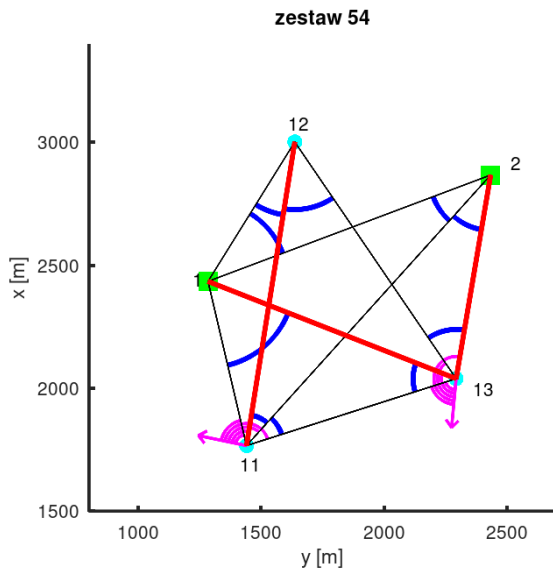
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 18,2       |
| 13 | 1  | 43,47586   | 16,4       |
| 13 | 12 | 81,60012   | 14,8       |
| 13 | 2  | 130,38046  | 18,2       |
| 13 | 11 | 0,00028    | 18,2       |
| 11 | 1  | 0,00000    | 17,6       |
| 11 | 12 | 24,69117   | 15,7       |
| 11 | 2  | 61,38846   | 16,0       |
| 11 | 13 | 94,97019   | 17,9       |
| 11 | 1  | 399,99988  | 17,6       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69722        | 12,7            |
| 2  | 11 | 13 | 33,58235        | 17,0            |
| 11 | 13 | 1  | 43,47586        | 13,9            |
| 12 | 13 | 2  | 48,78012        | 16,7            |
| 13 | 2  | 11 | 36,03719        | 13,3            |
| 11 | 2  | 1  | 30,35972        | 13,0            |
| 13 | 12 | 11 | 48,12056        | 17,0            |
| 11 | 12 | 1  | 25,40194        | 13,6            |
| 12 | 1  | 2  | 41,65460        | 13,3            |
| 13 | 1  | 11 | 61,55333        | 13,9            |

## Zestaw 54: poglądowy szkic sieci



## Zestaw 55: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2364,804 | 1287,228 |
| 2  | 2943,633 | 2370,358 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,923 | 0,063     |
| 12 | 2  | 807,785  | 0,038     |
| 11 | 13 | 894,793  | 0,049     |

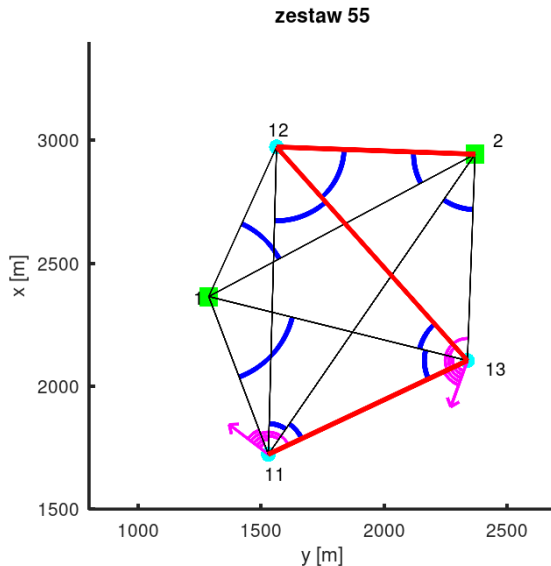
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,9       |
| 13 | 1  | 43,47605   | 19,1       |
| 13 | 12 | 81,60009   | 17,6       |
| 13 | 2  | 130,38096  | 14,5       |
| 13 | 11 | 0,00012    | 17,9       |
| 11 | 1  | 0,00000    | 19,1       |
| 11 | 12 | 24,69080   | 17,9       |
| 11 | 2  | 61,38855   | 14,8       |
| 11 | 13 | 94,97046   | 14,8       |
| 11 | 1  | 399,99991  | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69716        | 16,0            |
| 2  | 11 | 13 | 33,58176        | 16,4            |
| 11 | 13 | 1  | 43,47620        | 12,7            |
| 1  | 13 | 12 | 38,12448        | 15,1            |
| 13 | 2  | 11 | 36,03710        | 13,0            |
| 1  | 2  | 12 | 33,56472        | 14,2            |
| 2  | 12 | 13 | 51,25809        | 16,4            |
| 13 | 12 | 11 | 48,12040        | 15,7            |
| 12 | 1  | 2  | 41,65478        | 17,0            |
| 13 | 1  | 11 | 61,55327        | 17,6            |

## Zestaw 55: poglądowy szkic sieci



## Zestaw 56: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2207,859 | 1328,933 |
| 2  | 3085,601 | 2187,875 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,413 | 0,061     |
| 12 | 13 | 1164,929 | 0,065     |
| 11 | 13 | 894,804  | 0,049     |

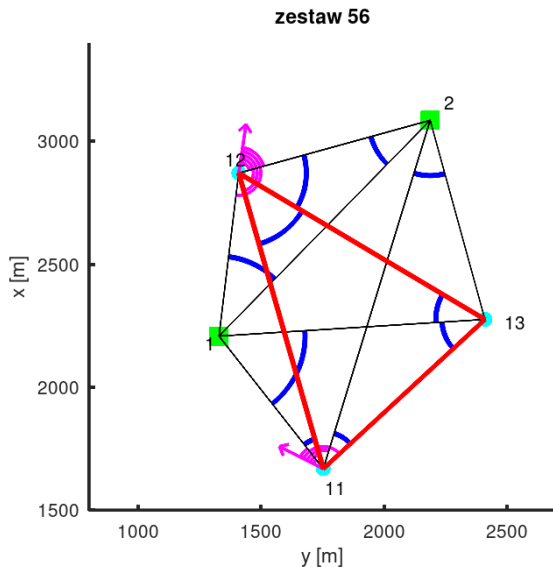
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,6       |
| 11 | 12 | 24,69077   | 17,0       |
| 11 | 2  | 61,38809   | 17,9       |
| 11 | 13 | 94,97025   | 14,8       |
| 11 | 1  | 399,99972  | 17,6       |
| 12 | 2  | 0,00000    | 13,9       |
| 12 | 13 | 51,25833   | 17,3       |
| 12 | 11 | 99,37818   | 17,9       |
| 12 | 1  | 124,78037  | 16,4       |
| 12 | 2  | 0,00019    | 13,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69080        | 14,8            |
| 2  | 11 | 13 | 33,58204        | 14,5            |
| 11 | 13 | 1  | 43,47623        | 12,3            |
| 1  | 13 | 12 | 38,12448        | 17,9            |
| 13 | 2  | 11 | 36,03722        | 14,5            |
| 1  | 2  | 12 | 33,56497        | 16,0            |
| 2  | 12 | 13 | 51,25787        | 16,0            |
| 13 | 12 | 11 | 48,12040        | 16,7            |
| 12 | 1  | 2  | 41,65488        | 13,3            |
| 13 | 1  | 11 | 61,55352        | 18,2            |

## Zestaw 56: poglądowy szkic sieci



## Zestaw 57: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2650,493 | 1335,644 |
| 2  | 2578,091 | 2561,602 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 13 | 1083,701 | 0,051     |
| 2 | 11 | 1482,004 | 0,075     |
| 2 | 13 | 839,839  | 0,044     |

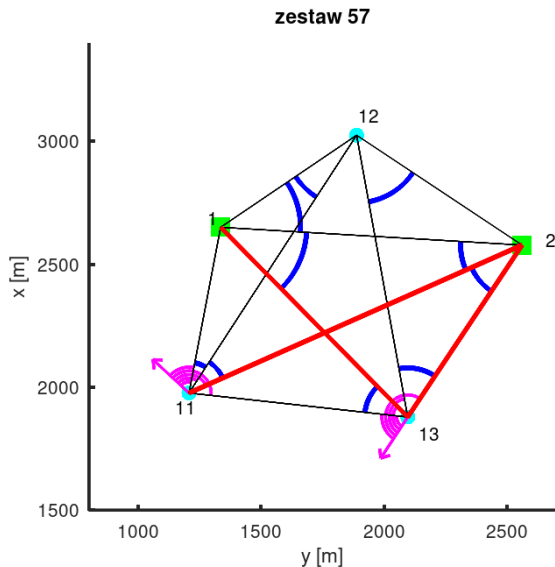
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 13,9       |
| 11 | 12 | 24,69080   | 15,4       |
| 11 | 2  | 61,38824   | 12,3       |
| 11 | 13 | 94,97034   | 16,7       |
| 11 | 1  | 399,99981  | 13,9       |
| 13 | 11 | 0,00000    | 17,0       |
| 13 | 1  | 43,47630   | 18,2       |
| 13 | 12 | 81,60037   | 12,3       |
| 13 | 2  | 130,38099  | 14,5       |
| 13 | 11 | 399,99997  | 17,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69086        | 18,8            |
| 12 | 11 | 2  | 36,69759        | 16,4            |
| 11 | 13 | 1  | 43,47636        | 11,4            |
| 12 | 13 | 2  | 48,78015        | 12,0            |
| 13 | 2  | 11 | 36,03707        | 13,0            |
| 11 | 2  | 1  | 30,35923        | 13,6            |
| 2  | 12 | 13 | 51,25840        | 15,4            |
| 11 | 12 | 1  | 25,40173        | 16,4            |
| 12 | 1  | 2  | 41,65488        | 13,6            |
| 2  | 1  | 13 | 46,69861        | 16,7            |

## Zestaw 57: poglądowy szkic sieci



## Zestaw 58: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2620,624 | 1322,583 |
| 2  | 2623,200 | 2550,674 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 2  | 11 | 1482,008 | 0,071     |
| 2  | 13 | 839,835  | 0,044     |
| 11 | 13 | 894,806  | 0,046     |

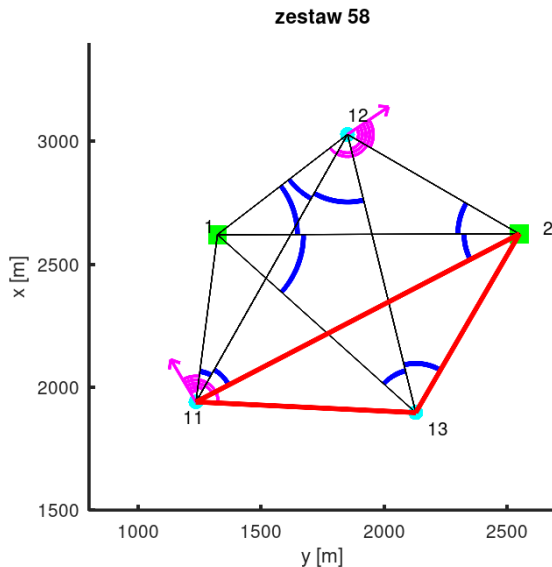
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69120   | 16,7       |
| 11 | 2  | 61,38809   | 17,0       |
| 11 | 13 | 94,97012   | 18,2       |
| 11 | 1  | 399,99969  | 14,5       |
| 12 | 2  | 0,00000    | 13,9       |
| 12 | 13 | 51,25812   | 19,4       |
| 12 | 11 | 99,37870   | 17,3       |
| 12 | 1  | 124,78015  | 16,7       |
| 12 | 2  | 399,99997  | 13,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69127        | 18,8            |
| 12 | 11 | 2  | 36,69747        | 15,7            |
| 1  | 13 | 12 | 38,12451        | 12,7            |
| 12 | 13 | 2  | 48,78028        | 17,3            |
| 11 | 2  | 1  | 30,35954        | 16,4            |
| 1  | 2  | 12 | 33,56457        | 18,5            |
| 13 | 12 | 11 | 48,12000        | 14,5            |
| 11 | 12 | 1  | 25,40157        | 19,4            |
| 12 | 1  | 2  | 41,65515        | 16,4            |
| 2  | 1  | 13 | 46,69892        | 13,3            |

## Zestaw 58: poglądowy szkic sieci



## Zestaw 59: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2238,110 | 1316,784 |
| 2  | 3061,778 | 2227,709 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,923 | 0,063     |
| 2  | 11 | 1482,006 | 0,069     |
| 11 | 13 | 894,801  | 0,052     |

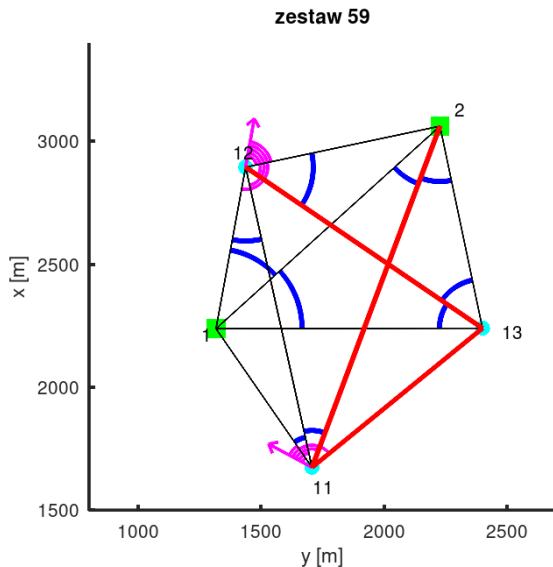
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25824   | 15,4       |
| 12 | 11 | 99,37849   | 13,9       |
| 12 | 1  | 124,78037  | 18,2       |
| 12 | 2  | 0,00006    | 16,7       |
| 11 | 1  | 0,00000    | 15,4       |
| 11 | 12 | 24,69120   | 19,4       |
| 11 | 2  | 61,38827   | 16,0       |
| 11 | 13 | 94,97043   | 18,8       |
| 11 | 1  | 399,99988  | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69111        | 17,3            |
| 12 | 11 | 2  | 36,69704        | 15,7            |
| 1  | 13 | 12 | 38,12438        | 15,7            |
| 12 | 13 | 2  | 48,78049        | 13,3            |
| 13 | 2  | 11 | 36,03701        | 13,3            |
| 11 | 2  | 1  | 30,35926        | 15,4            |
| 2  | 12 | 13 | 51,25790        | 14,8            |
| 11 | 12 | 1  | 25,40167        | 19,1            |
| 12 | 1  | 2  | 41,65481        | 17,9            |
| 2  | 1  | 13 | 46,69840        | 17,9            |

## Zestaw 59: poglądowy szkic sieci



## Zestaw 60: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2783,310 | 2210,618 |
| 2  | 1673,744 | 1684,237 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 12 | 667,811  | 0,035     |
| 1 | 11 | 686,013  | 0,038     |
| 2 | 11 | 1481,996 | 0,068     |

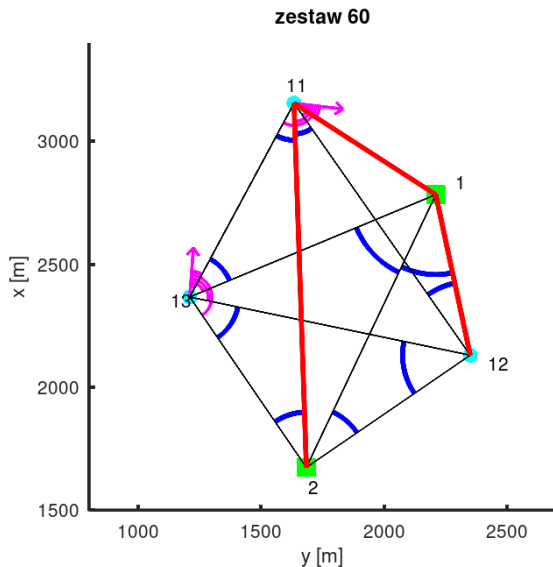
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69114   | 14,5       |
| 11 | 2  | 61,38849   | 17,3       |
| 11 | 13 | 94,97043   | 13,9       |
| 11 | 1  | 399,99985  | 14,5       |
| 13 | 11 | 0,00000    | 18,8       |
| 13 | 1  | 43,47602   | 18,8       |
| 13 | 12 | 81,60043   | 14,5       |
| 13 | 2  | 130,38068  | 14,8       |
| 13 | 11 | 399,99969  | 18,8       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69725        | 18,2            |
| 2  | 11 | 13 | 33,58235        | 18,2            |
| 11 | 13 | 1  | 43,47580        | 13,3            |
| 12 | 13 | 2  | 48,78034        | 13,0            |
| 13 | 2  | 11 | 36,03713        | 10,2            |
| 1  | 2  | 12 | 33,56448        | 13,3            |
| 2  | 12 | 13 | 51,25821        | 14,5            |
| 11 | 12 | 1  | 25,40179        | 14,5            |
| 12 | 1  | 2  | 41,65463        | 19,1            |
| 2  | 1  | 13 | 46,69877        | 13,0            |

## Zestaw 60: poglądowy szkic sieci



## Zestaw 61: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2205,836 | 2306,025 |
| 2  | 2246,121 | 1078,593 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,418 | 0,058     |
| 12 | 13 | 1164,922 | 0,062     |
| 2  | 11 | 1481,998 | 0,074     |

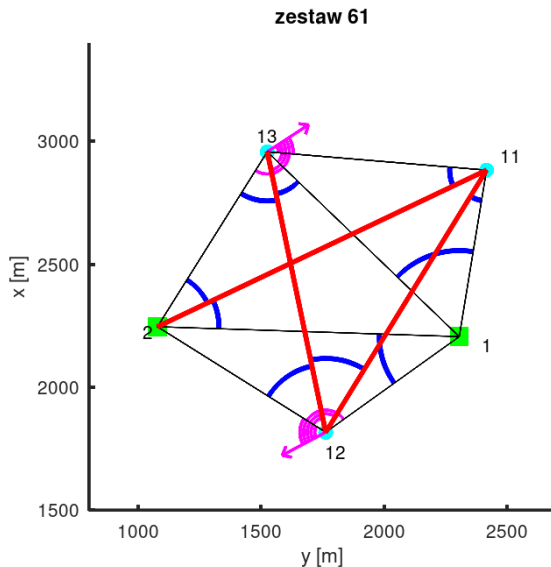
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25799   | 17,0       |
| 12 | 11 | 99,37855   | 15,7       |
| 12 | 1  | 124,78012  | 14,8       |
| 12 | 2  | 399,99981  | 15,1       |
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47623   | 18,2       |
| 13 | 12 | 81,60034   | 13,6       |
| 13 | 2  | 130,38040  | 14,2       |
| 13 | 11 | 399,99994  | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69130        | 16,4            |
| 2  | 11 | 13 | 33,58201        | 14,5            |
| 1  | 13 | 12 | 38,12407        | 17,9            |
| 12 | 13 | 2  | 48,78028        | 15,4            |
| 13 | 2  | 11 | 36,03731        | 14,2            |
| 11 | 2  | 1  | 30,35938        | 13,9            |
| 2  | 12 | 13 | 51,25827        | 14,5            |
| 13 | 12 | 11 | 48,12034        | 16,0            |
| 12 | 1  | 2  | 41,65497        | 13,3            |
| 13 | 1  | 11 | 61,55349        | 15,7            |

# Zestaw 61: poglądowy szkic sieci



## Zestaw 62: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2298,402 | 2337,210 |
| 2  | 2114,330 | 1122,990 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,700 | 0,051     |
| 12 | 2  | 807,795  | 0,036     |
| 2  | 13 | 839,841  | 0,039     |

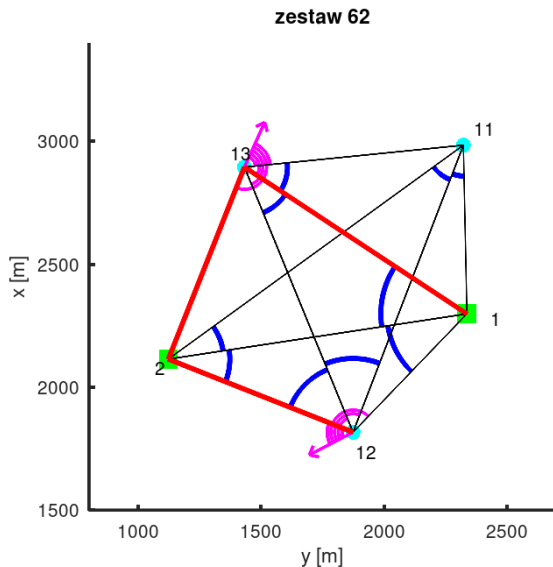
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,6       |
| 13 | 1  | 43,47577   | 14,5       |
| 13 | 12 | 81,60037   | 16,0       |
| 13 | 2  | 130,38056  | 15,4       |
| 13 | 11 | 399,99985  | 17,6       |
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25806   | 14,5       |
| 12 | 11 | 99,37818   | 17,3       |
| 12 | 1  | 124,78037  | 17,9       |
| 12 | 2  | 399,99981  | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69077        | 14,8            |
| 12 | 11 | 2  | 36,69704        | 17,0            |
| 11 | 13 | 1  | 43,47620        | 15,1            |
| 1  | 13 | 12 | 38,12410        | 12,7            |
| 11 | 2  | 1  | 30,35957        | 13,3            |
| 1  | 2  | 12 | 33,56463        | 18,8            |
| 2  | 12 | 13 | 51,25824        | 16,7            |
| 13 | 12 | 11 | 48,12000        | 17,6            |
| 12 | 1  | 2  | 41,65485        | 13,3            |
| 2  | 1  | 13 | 46,69840        | 13,6            |

## Zestaw 62: poglądowy szkic sieci



## Zestaw 63: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2124,359 | 2261,106 |
| 2  | 2377,173 | 1059,316 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 12 | 667,801  | 0,033     |
| 1 | 13 | 1083,694 | 0,048     |
| 2 | 11 | 1482,010 | 0,067     |

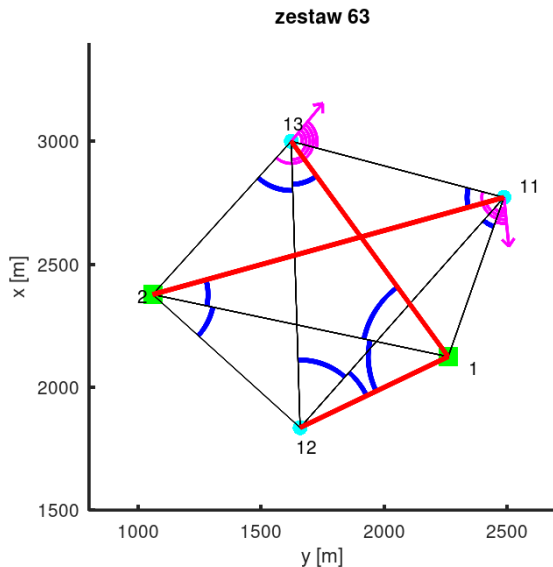
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,6       |
| 11 | 12 | 24,69093   | 15,7       |
| 11 | 2  | 61,38861   | 14,8       |
| 11 | 13 | 94,97009   | 18,5       |
| 11 | 1  | 399,99994  | 17,6       |
| 13 | 11 | 0,00000    | 18,5       |
| 13 | 1  | 43,47617   | 18,8       |
| 13 | 12 | 81,60040   | 14,8       |
| 13 | 2  | 130,38043  | 16,4       |
| 13 | 11 | 399,99969  | 18,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69096        | 14,5            |
| 2  | 11 | 13 | 33,58185        | 18,5            |
| 1  | 13 | 12 | 38,12432        | 13,6            |
| 12 | 13 | 2  | 48,78046        | 16,4            |
| 11 | 2  | 1  | 30,35929        | 16,0            |
| 1  | 2  | 12 | 33,56488        | 14,8            |
| 13 | 12 | 11 | 48,12059        | 14,8            |
| 11 | 12 | 1  | 25,40198        | 18,5            |
| 12 | 1  | 2  | 41,65503        | 13,6            |
| 2  | 1  | 13 | 46,69852        | 17,9            |

## Zestaw 63: poglądowy szkic sieci



## Zestaw 64: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2952,986 | 1765,549 |
| 2  | 1864,846 | 2334,903 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,403 | 0,067     |
| 12 | 13 | 1164,930 | 0,062     |
| 2  | 13 | 839,843  | 0,043     |

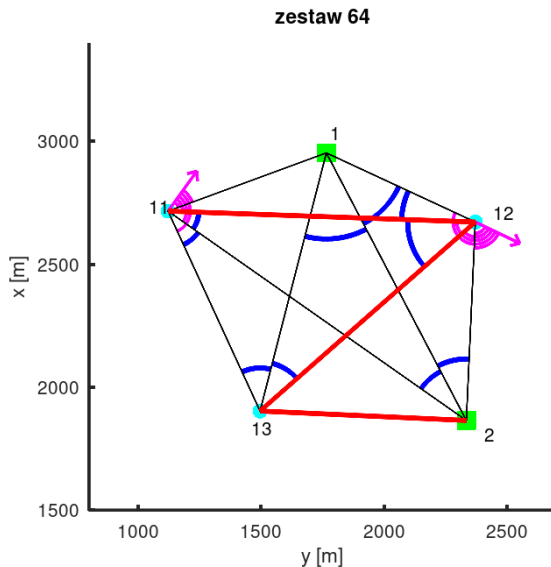
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 17,3       |
| 12 | 13 | 51,25830   | 17,9       |
| 12 | 11 | 99,37852   | 16,7       |
| 12 | 1  | 124,78056  | 17,9       |
| 12 | 2  | 0,00003    | 17,3       |
| 11 | 1  | 0,00000    | 17,3       |
| 11 | 12 | 24,69123   | 14,2       |
| 11 | 2  | 61,38849   | 13,6       |
| 11 | 13 | 94,97015   | 13,9       |
| 11 | 1  | 399,99994  | 17,3       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69756        | 16,0            |
| 2  | 11 | 13 | 33,58185        | 16,0            |
| 11 | 13 | 1  | 43,47593        | 10,5            |
| 1  | 13 | 12 | 38,12441        | 14,8            |
| 11 | 2  | 1  | 30,35975        | 12,3            |
| 1  | 2  | 12 | 33,56478        | 13,6            |
| 13 | 12 | 11 | 48,12043        | 13,3            |
| 11 | 12 | 1  | 25,40194        | 15,7            |
| 12 | 1  | 2  | 41,65463        | 18,2            |
| 2  | 1  | 13 | 46,69843        | 17,3            |

## Zestaw 64: poglądowy szkic sieci



## Zestaw 65: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2955,193 | 1798,074 |
| 2  | 1834,324 | 2299,937 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 13 | 1083,697 | 0,053     |
| 1 | 11 | 686,018  | 0,038     |
| 2 | 13 | 839,836  | 0,044     |

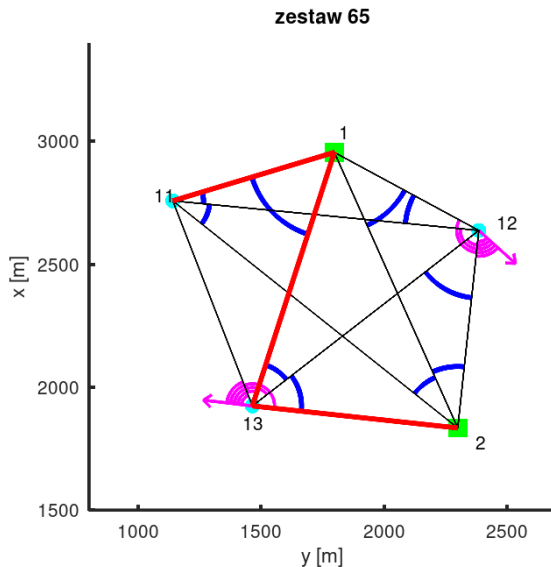
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 18,8       |
| 13 | 1  | 43,47617   | 16,0       |
| 13 | 12 | 81,60046   | 17,6       |
| 13 | 2  | 130,38099  | 18,8       |
| 13 | 11 | 399,99991  | 18,8       |
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25796   | 17,6       |
| 12 | 11 | 99,37830   | 13,0       |
| 12 | 1  | 124,78049  | 15,4       |
| 12 | 2  | 0,00019    | 15,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69080        | 19,1            |
| 12 | 11 | 2  | 36,69741        | 13,3            |
| 1  | 13 | 12 | 38,12401        | 17,6            |
| 12 | 13 | 2  | 48,78062        | 15,7            |
| 11 | 2  | 1  | 30,35941        | 13,9            |
| 1  | 2  | 12 | 33,56444        | 17,0            |
| 2  | 12 | 13 | 51,25809        | 14,5            |
| 11 | 12 | 1  | 25,40173        | 13,6            |
| 12 | 1  | 2  | 41,65460        | 14,8            |
| 13 | 1  | 11 | 61,55336        | 17,6            |

# Zestaw 65: poglądowy szkic sieci



## Zestaw 66: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1934,708 | 2036,137 |
| 2  | 2785,957 | 1150,933 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 2  | 807,799  | 0,040     |
| 2  | 11 | 1482,002 | 0,075     |
| 2  | 13 | 839,842  | 0,042     |

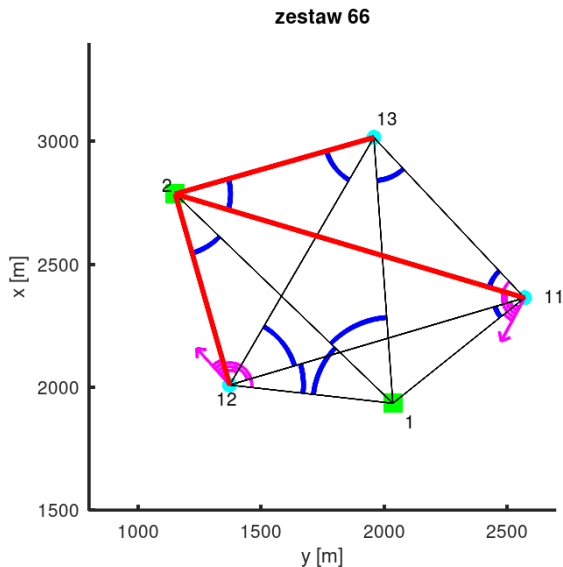
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 14,5       |
| 12 | 13 | 51,25827   | 15,4       |
| 12 | 11 | 99,37818   | 17,6       |
| 12 | 1  | 124,78019  | 15,7       |
| 12 | 2  | 399,99991  | 14,5       |
| 11 | 1  | 0,00000    | 17,6       |
| 11 | 12 | 24,69114   | 17,9       |
| 11 | 2  | 61,38824   | 13,3       |
| 11 | 13 | 94,97037   | 14,8       |
| 11 | 1  | 0,00019    | 17,6       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69086        | 15,7            |
| 2  | 11 | 13 | 33,58213        | 14,5            |
| 11 | 13 | 1  | 43,47608        | 10,2            |
| 12 | 13 | 2  | 48,78049        | 12,3            |
| 13 | 2  | 11 | 36,03741        | 14,8            |
| 1  | 2  | 12 | 33,56472        | 15,1            |
| 13 | 12 | 11 | 48,12043        | 13,0            |
| 11 | 12 | 1  | 25,40160        | 19,4            |
| 12 | 1  | 2  | 41,65469        | 16,0            |
| 2  | 1  | 13 | 46,69867        | 15,1            |

## Zestaw 66: poglądowy szkic sieci



## Zestaw 67: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2902,079 | 2050,804 |
| 2  | 1676,800 | 1967,707 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,026  | 0,042     |
| 12 | 11 | 1250,408 | 0,060     |
| 11 | 13 | 894,790  | 0,048     |

### Obserwacje kierunków

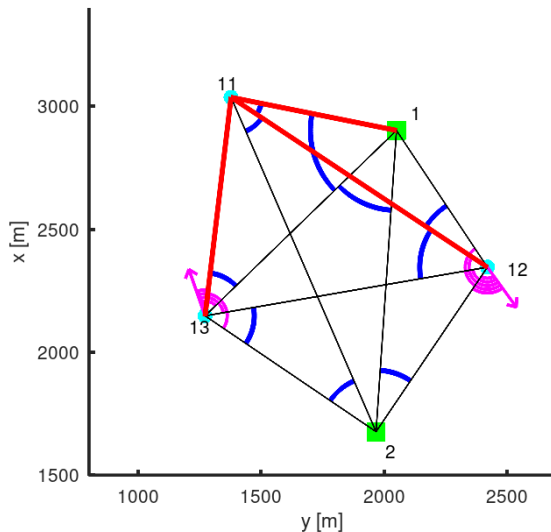
| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25840   | 16,0       |
| 12 | 11 | 99,37870   | 17,3       |
| 12 | 1  | 124,78009  | 16,0       |
| 12 | 2  | 0,00019    | 16,7       |
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47620   | 18,2       |
| 13 | 12 | 81,60056   | 15,7       |
| 13 | 2  | 130,38040  | 18,8       |
| 13 | 11 | 399,99991  | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69111        | 18,5            |
| 12 | 11 | 2  | 36,69750        | 17,3            |
| 11 | 13 | 1  | 43,47620        | 10,8            |
| 12 | 13 | 2  | 48,78037        | 15,7            |
| 13 | 2  | 11 | 36,03735        | 13,3            |
| 1  | 2  | 12 | 33,56481        | 13,6            |
| 13 | 12 | 11 | 48,12043        | 15,7            |
| 11 | 12 | 1  | 25,40164        | 16,7            |
| 2  | 1  | 13 | 46,69840        | 18,2            |
| 13 | 1  | 11 | 61,55352        | 14,2            |

# Zestaw 67: poglądowy szkic sieci

zestaw 67



## Zestaw 68: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2097,858 | 2242,120 |
| 2  | 2423,568 | 1058,006 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,019  | 0,043     |
| 12 | 11 | 1250,417 | 0,066     |
| 12 | 2  | 807,784  | 0,042     |

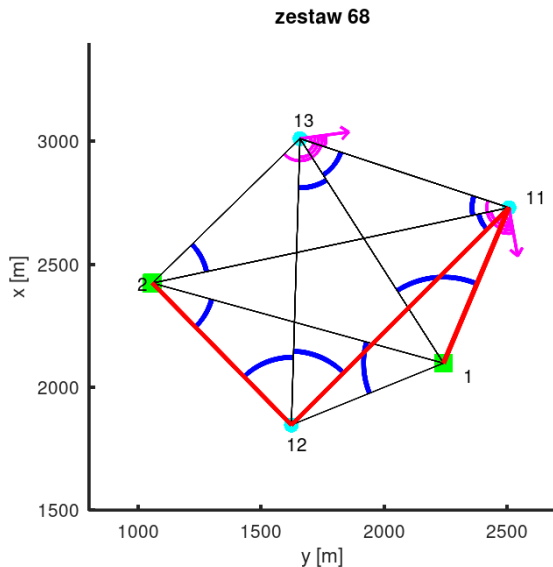
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69099   | 16,7       |
| 11 | 2  | 61,38836   | 16,0       |
| 11 | 13 | 94,97031   | 17,9       |
| 11 | 1  | 399,99981  | 14,5       |
| 13 | 11 | 0,00000    | 18,2       |
| 13 | 1  | 43,47633   | 17,0       |
| 13 | 12 | 81,60040   | 18,2       |
| 13 | 2  | 130,38068  | 19,1       |
| 13 | 11 | 0,00015    | 18,2       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69731        | 17,3            |
| 2  | 11 | 13 | 33,58201        | 16,7            |
| 11 | 13 | 1  | 43,47580        | 10,5            |
| 1  | 13 | 12 | 38,12420        | 14,5            |
| 13 | 2  | 11 | 36,03710        | 11,4            |
| 1  | 2  | 12 | 33,56481        | 17,6            |
| 2  | 12 | 13 | 51,25799        | 15,1            |
| 13 | 12 | 11 | 48,12056        | 17,0            |
| 12 | 1  | 2  | 41,65503        | 13,3            |
| 13 | 1  | 11 | 61,55324        | 14,8            |

## Zestaw 68: poglądowy szkic sieci



## Zestaw 69: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2943,174 | 1932,254 |
| 2  | 1732,351 | 2137,488 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,691 | 0,050     |
| 1  | 11 | 686,019  | 0,038     |
| 12 | 2  | 807,800  | 0,042     |

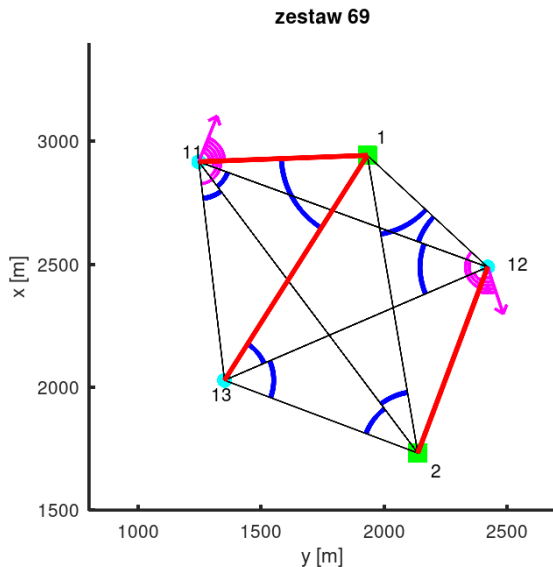
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25799   | 15,1       |
| 12 | 11 | 99,37855   | 13,9       |
| 12 | 1  | 124,78046  | 17,9       |
| 12 | 2  | 0,00006    | 15,1       |
| 11 | 1  | 0,00000    | 18,2       |
| 11 | 12 | 24,69111   | 17,9       |
| 11 | 2  | 61,38815   | 12,3       |
| 11 | 13 | 94,97068   | 19,1       |
| 11 | 1  | 399,99978  | 18,2       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69731        | 14,5            |
| 2  | 11 | 13 | 33,58207        | 15,4            |
| 1  | 13 | 12 | 38,12423        | 14,5            |
| 12 | 13 | 2  | 48,78040        | 11,4            |
| 13 | 2  | 11 | 36,03722        | 15,7            |
| 11 | 2  | 1  | 30,35932        | 16,7            |
| 13 | 12 | 11 | 48,12034        | 16,4            |
| 11 | 12 | 1  | 25,40176        | 15,7            |
| 12 | 1  | 2  | 41,65488        | 15,7            |
| 13 | 1  | 11 | 61,55364        | 17,6            |

## Zestaw 69: poglądowy szkic sieci



## Zestaw 70: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2003,336 | 1486,616 |
| 2  | 3181,585 | 1832,942 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,692 | 0,053     |
| 12 | 13 | 1164,930 | 0,061     |
| 2  | 11 | 1482,004 | 0,066     |

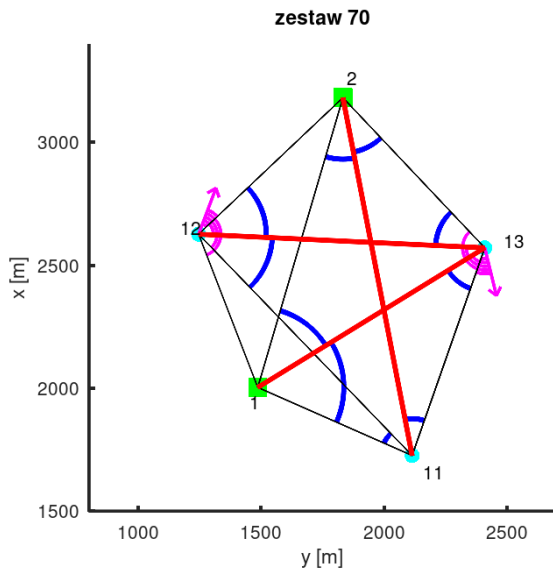
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,4       |
| 13 | 1  | 43,47636   | 19,4       |
| 13 | 12 | 81,60056   | 12,7       |
| 13 | 2  | 130,38080  | 17,6       |
| 13 | 11 | 0,00019    | 15,4       |
| 12 | 2  | 0,00000    | 19,4       |
| 12 | 13 | 51,25833   | 19,4       |
| 12 | 11 | 99,37821   | 13,6       |
| 12 | 1  | 124,78043  | 15,1       |
| 12 | 2  | 399,99978  | 19,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69090        | 18,2            |
| 2  | 11 | 13 | 33,58182        | 18,8            |
| 11 | 13 | 1  | 43,47633        | 13,6            |
| 12 | 13 | 2  | 48,78052        | 15,4            |
| 13 | 2  | 11 | 36,03738        | 15,1            |
| 11 | 2  | 1  | 30,35920        | 14,5            |
| 2  | 12 | 13 | 51,25818        | 13,9            |
| 13 | 12 | 11 | 48,12043        | 18,5            |
| 2  | 1  | 13 | 46,69883        | 16,7            |
| 13 | 1  | 11 | 61,55361        | 17,3            |

## Zestaw 70: poglądowy szkic sieci



## Zestaw 71: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2527,026 | 1294,647 |
| 2  | 2753,361 | 2501,704 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,699 | 0,048     |
| 1  | 11 | 686,010  | 0,037     |
| 12 | 13 | 1164,930 | 0,061     |

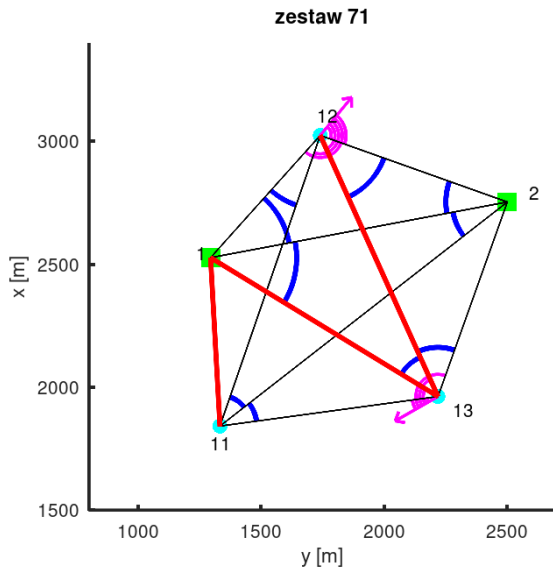
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,4       |
| 13 | 1  | 43,47623   | 17,0       |
| 13 | 12 | 81,60049   | 16,7       |
| 13 | 2  | 130,38059  | 17,6       |
| 13 | 11 | 399,99972  | 16,4       |
| 12 | 2  | 0,00000    | 19,4       |
| 12 | 13 | 51,25799   | 18,5       |
| 12 | 11 | 99,37830   | 18,2       |
| 12 | 1  | 124,78052  | 17,0       |
| 12 | 2  | 399,99991  | 19,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69728        | 16,7            |
| 2  | 11 | 13 | 33,58204        | 17,9            |
| 1  | 13 | 12 | 38,12420        | 16,4            |
| 12 | 13 | 2  | 48,78062        | 13,9            |
| 11 | 2  | 1  | 30,35960        | 13,0            |
| 1  | 2  | 12 | 33,56457        | 18,8            |
| 2  | 12 | 13 | 51,25799        | 17,3            |
| 11 | 12 | 1  | 25,40173        | 17,9            |
| 12 | 1  | 2  | 41,65509        | 17,3            |
| 2  | 1  | 13 | 46,69849        | 13,9            |

# Zestaw 71: poglądowy szkic sieci



## Zestaw 72: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2266,930 | 2328,708 |
| 2  | 2157,328 | 1105,515 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,802  | 0,033     |
| 12 | 13 | 1164,924 | 0,061     |
| 2  | 11 | 1482,007 | 0,066     |

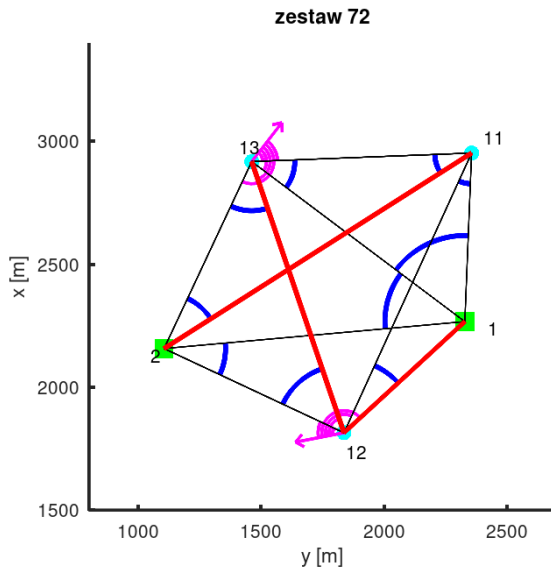
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 14,8       |
| 13 | 1  | 43,47630   | 18,2       |
| 13 | 12 | 81,60009   | 13,9       |
| 13 | 2  | 130,38090  | 14,5       |
| 13 | 11 | 399,99994  | 14,8       |
| 12 | 2  | 0,00000    | 15,4       |
| 12 | 13 | 51,25784   | 18,2       |
| 12 | 11 | 99,37840   | 17,3       |
| 12 | 1  | 124,78022  | 14,2       |
| 12 | 2  | 0,00003    | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69099        | 14,2            |
| 2  | 11 | 13 | 33,58228        | 14,5            |
| 11 | 13 | 1  | 43,47611        | 10,2            |
| 12 | 13 | 2  | 48,78065        | 16,7            |
| 13 | 2  | 11 | 36,03725        | 14,5            |
| 1  | 2  | 12 | 33,56481        | 18,2            |
| 2  | 12 | 13 | 51,25827        | 13,3            |
| 11 | 12 | 1  | 25,40167        | 18,2            |
| 2  | 1  | 13 | 46,69877        | 13,3            |
| 13 | 1  | 11 | 61,55352        | 13,9            |

## Zestaw 72: poglądowy szkic sieci



## Zestaw 73: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2587,914 | 2325,171 |
| 2  | 1796,539 | 1386,055 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,699 | 0,053     |
| 12 | 11 | 1250,419 | 0,066     |
| 2  | 11 | 1482,003 | 0,068     |

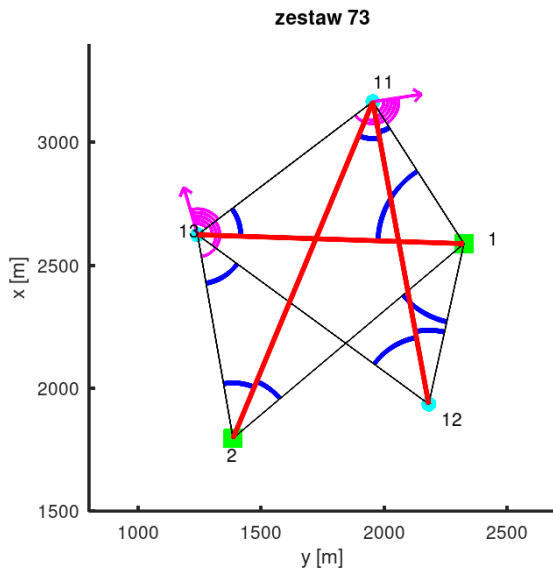
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 13,9       |
| 11 | 12 | 24,69099   | 17,0       |
| 11 | 2  | 61,38843   | 16,4       |
| 11 | 13 | 94,97012   | 17,6       |
| 11 | 1  | 0,00003    | 13,9       |
| 13 | 11 | 0,00000    | 18,5       |
| 13 | 1  | 43,47611   | 19,1       |
| 13 | 12 | 81,60049   | 17,9       |
| 13 | 2  | 130,38080  | 15,4       |
| 13 | 11 | 0,00015    | 18,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69077        | 15,1            |
| 12 | 11 | 2  | 36,69722        | 16,7            |
| 11 | 13 | 1  | 43,47617        | 11,4            |
| 12 | 13 | 2  | 48,78031        | 13,0            |
| 13 | 2  | 11 | 36,03722        | 14,5            |
| 11 | 2  | 1  | 30,35929        | 12,7            |
| 13 | 12 | 11 | 48,12025        | 15,7            |
| 11 | 12 | 1  | 25,40167        | 17,6            |
| 12 | 1  | 2  | 41,65503        | 17,0            |
| 13 | 1  | 11 | 61,55333        | 15,4            |

## Zestaw 73: poglądowy szkic sieci



## Zestaw 74: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2925,354 | 1994,939 |
| 2  | 1698,545 | 2051,082 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,420 | 0,064     |
| 12 | 13 | 1164,912 | 0,064     |
| 2  | 11 | 1481,998 | 0,067     |

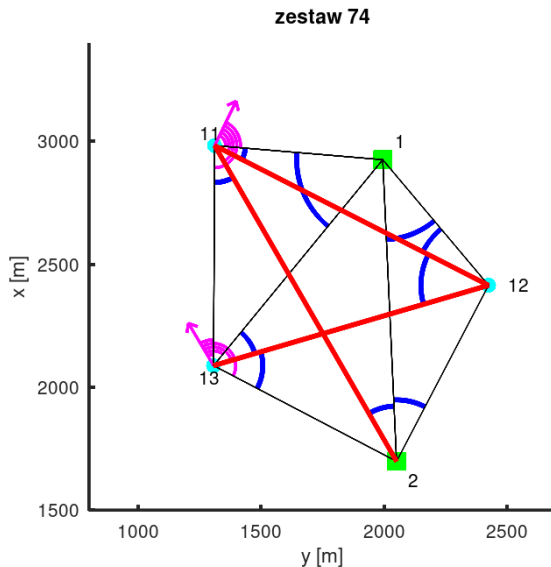
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,4       |
| 13 | 1  | 43,47620   | 16,0       |
| 13 | 12 | 81,60019   | 14,5       |
| 13 | 2  | 130,38062  | 17,3       |
| 13 | 11 | 399,99975  | 16,4       |
| 11 | 1  | 0,00000    | 13,6       |
| 11 | 12 | 24,69071   | 19,1       |
| 11 | 2  | 61,38827   | 17,0       |
| 11 | 13 | 94,97019   | 16,7       |
| 11 | 1  | 0,00025    | 13,6       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69096        | 18,8            |
| 2  | 11 | 13 | 33,58191        | 16,0            |
| 1  | 13 | 12 | 38,12441        | 15,4            |
| 12 | 13 | 2  | 48,78052        | 11,7            |
| 11 | 2  | 1  | 30,35969        | 11,7            |
| 1  | 2  | 12 | 33,56454        | 18,8            |
| 13 | 12 | 11 | 48,12012        | 13,0            |
| 11 | 12 | 1  | 25,40164        | 17,6            |
| 12 | 1  | 2  | 41,65515        | 18,8            |
| 13 | 1  | 11 | 61,55352        | 17,3            |

## Zestaw 74: poglądowy szkic sieci



## Zestaw 75: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2072,566 | 2221,552 |
| 2  | 2469,957 | 1059,530 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,408 | 0,066     |
| 12 | 2  | 807,790  | 0,045     |
| 11 | 13 | 894,809  | 0,049     |

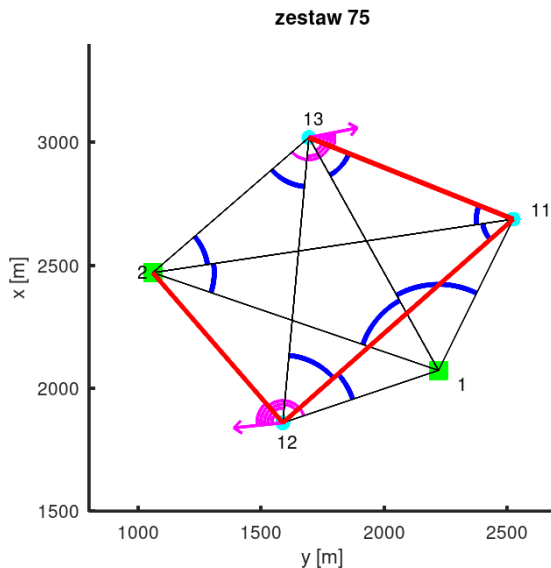
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 17,9       |
| 12 | 13 | 51,25784   | 15,4       |
| 12 | 11 | 99,37818   | 15,7       |
| 12 | 1  | 124,78006  | 18,8       |
| 12 | 2  | 399,99972  | 17,9       |
| 13 | 11 | 0,00000    | 14,8       |
| 13 | 1  | 43,47602   | 17,3       |
| 13 | 12 | 81,60056   | 13,3       |
| 13 | 2  | 130,38040  | 14,5       |
| 13 | 11 | 399,99988  | 14,8       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69735        | 16,4            |
| 2  | 11 | 13 | 33,58198        | 17,6            |
| 11 | 13 | 1  | 43,47599        | 15,4            |
| 12 | 13 | 2  | 48,78028        | 13,9            |
| 13 | 2  | 11 | 36,03698        | 10,2            |
| 11 | 2  | 1  | 30,35923        | 11,7            |
| 13 | 12 | 11 | 48,12025        | 16,7            |
| 11 | 12 | 1  | 25,40198        | 19,4            |
| 2  | 1  | 13 | 46,69877        | 14,2            |
| 13 | 1  | 11 | 61,55346        | 17,0            |

# Zestaw 75: poglądowy szkic sieci



## Zestaw 76: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2397,309 | 1284,738 |
| 2  | 2908,934 | 2401,184 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,916 | 0,067     |
| 2  | 11 | 1482,010 | 0,073     |
| 2  | 13 | 839,843  | 0,036     |

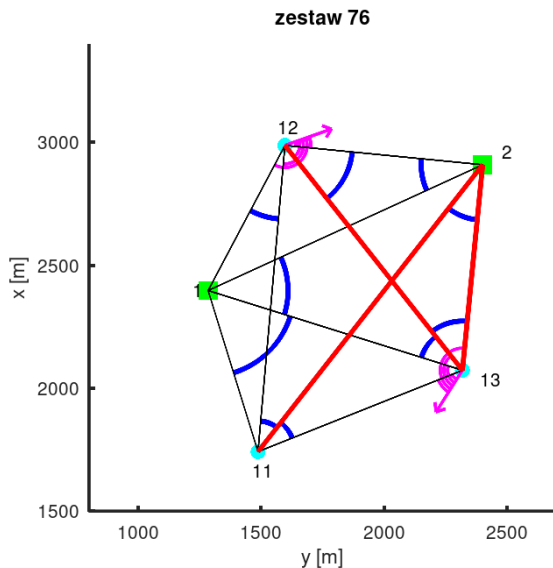
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,4       |
| 13 | 1  | 43,47623   | 17,0       |
| 13 | 12 | 81,60034   | 13,9       |
| 13 | 2  | 130,38068  | 13,6       |
| 13 | 11 | 0,00012    | 15,4       |
| 12 | 2  | 0,00000    | 17,9       |
| 12 | 13 | 51,25840   | 16,7       |
| 12 | 11 | 99,37870   | 14,2       |
| 12 | 1  | 124,78012  | 17,0       |
| 12 | 2  | 0,00003    | 17,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69716        | 13,3            |
| 2  | 11 | 13 | 33,58198        | 16,7            |
| 1  | 13 | 12 | 38,12435        | 13,3            |
| 12 | 13 | 2  | 48,78028        | 12,3            |
| 13 | 2  | 11 | 36,03719        | 13,0            |
| 1  | 2  | 12 | 33,56500        | 15,1            |
| 2  | 12 | 13 | 51,25809        | 13,6            |
| 11 | 12 | 1  | 25,40167        | 15,1            |
| 2  | 1  | 13 | 46,69870        | 17,3            |
| 13 | 1  | 11 | 61,55327        | 19,4            |

# Zestaw 76: poglądowy szkic sieci



## Zestaw 77: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2556,637 | 2334,365 |
| 2  | 1824,070 | 1348,688 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,413 | 0,065     |
| 12 | 2  | 807,791  | 0,037     |
| 11 | 13 | 894,793  | 0,044     |

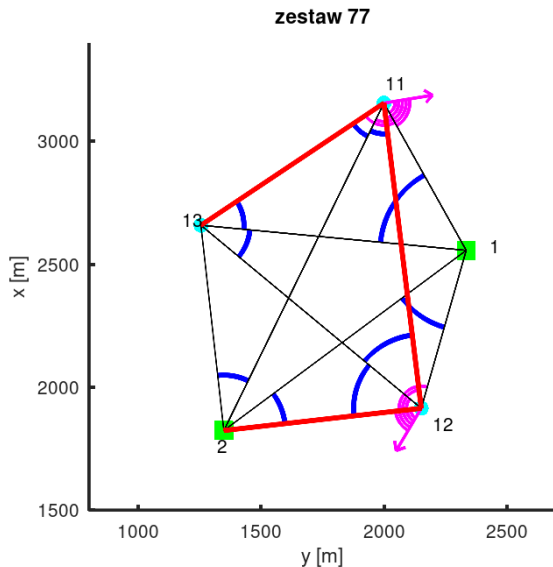
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,3       |
| 11 | 12 | 24,69083   | 13,6       |
| 11 | 2  | 61,38821   | 12,3       |
| 11 | 13 | 94,97019   | 14,8       |
| 11 | 1  | 399,99969  | 17,3       |
| 12 | 2  | 0,00000    | 15,1       |
| 12 | 13 | 51,25818   | 17,9       |
| 12 | 11 | 99,37818   | 16,7       |
| 12 | 1  | 124,78046  | 14,2       |
| 12 | 2  | 399,99981  | 15,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69707        | 15,7            |
| 2  | 11 | 13 | 33,58225        | 18,8            |
| 11 | 13 | 1  | 43,47605        | 13,9            |
| 1  | 13 | 12 | 38,12420        | 14,8            |
| 13 | 2  | 11 | 36,03691        | 15,7            |
| 1  | 2  | 12 | 33,56444        | 14,2            |
| 2  | 12 | 13 | 51,25809        | 15,4            |
| 13 | 12 | 11 | 48,12022        | 13,3            |
| 12 | 1  | 2  | 41,65485        | 13,6            |
| 13 | 1  | 11 | 61,55349        | 17,9            |

# Zestaw 77: poglądowy szkic sieci



## Zestaw 78: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2949,517 | 1737,821 |
| 2  | 1892,666 | 2363,344 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,684 | 0,047     |
| 1  | 11 | 686,009  | 0,038     |
| 12 | 11 | 1250,416 | 0,061     |

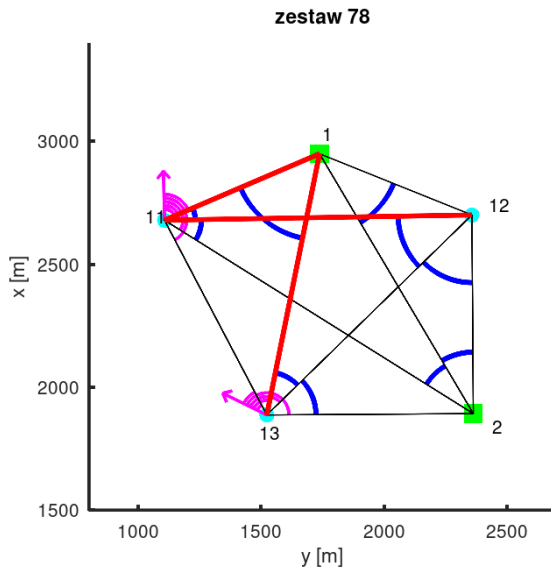
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69093   | 19,4       |
| 11 | 2  | 61,38802   | 12,7       |
| 11 | 13 | 94,97012   | 17,0       |
| 11 | 1  | 399,99985  | 17,9       |
| 13 | 11 | 0,00000    | 17,6       |
| 13 | 1  | 43,47583   | 19,4       |
| 13 | 12 | 81,60000   | 14,8       |
| 13 | 2  | 130,38077  | 15,1       |
| 13 | 11 | 0,00012    | 17,6       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69093        | 17,3            |
| 12 | 11 | 2  | 36,69741        | 12,7            |
| 1  | 13 | 12 | 38,12404        | 15,4            |
| 12 | 13 | 2  | 48,78052        | 14,8            |
| 11 | 2  | 1  | 30,35923        | 16,4            |
| 1  | 2  | 12 | 33,56466        | 18,5            |
| 2  | 12 | 13 | 51,25821        | 17,0            |
| 13 | 12 | 11 | 48,12040        | 17,0            |
| 12 | 1  | 2  | 41,65503        | 14,8            |
| 13 | 1  | 11 | 61,55364        | 17,3            |

## Zestaw 78: poglądowy szkic sieci



## Zestaw 79: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2811,337 | 1453,014 |
| 2  | 2294,659 | 2567,131 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,807  | 0,039     |
| 12 | 11 | 1250,404 | 0,059     |
| 2  | 13 | 839,840  | 0,037     |

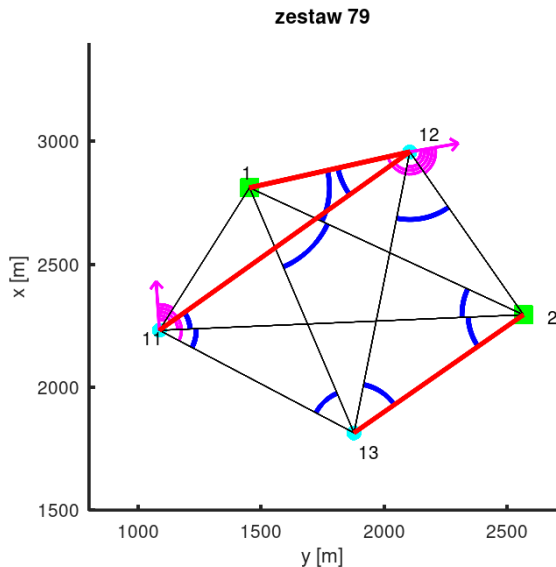
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 15,4       |
| 11 | 12 | 24,69123   | 15,4       |
| 11 | 2  | 61,38809   | 16,4       |
| 11 | 13 | 94,97043   | 14,5       |
| 11 | 1  | 0,00015    | 15,4       |
| 12 | 2  | 0,00000    | 14,5       |
| 12 | 13 | 51,25796   | 17,0       |
| 12 | 11 | 99,37821   | 15,7       |
| 12 | 1  | 124,78006  | 13,3       |
| 12 | 2  | 0,00015    | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69747        | 15,7            |
| 2  | 11 | 13 | 33,58235        | 18,5            |
| 11 | 13 | 1  | 43,47599        | 10,8            |
| 12 | 13 | 2  | 48,78031        | 17,3            |
| 13 | 2  | 11 | 36,03741        | 11,7            |
| 11 | 2  | 1  | 30,35960        | 16,0            |
| 2  | 12 | 13 | 51,25840        | 13,9            |
| 11 | 12 | 1  | 25,40182        | 19,4            |
| 12 | 1  | 2  | 41,65481        | 19,1            |
| 2  | 1  | 13 | 46,69846        | 15,4            |

## Zestaw 79: poglądowy szkic sieci



## Zestaw 80: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2870,118 | 2107,598 |
| 2  | 1664,099 | 1875,796 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,801  | 0,036     |
| 12 | 13 | 1164,919 | 0,063     |
| 12 | 2  | 807,791  | 0,037     |

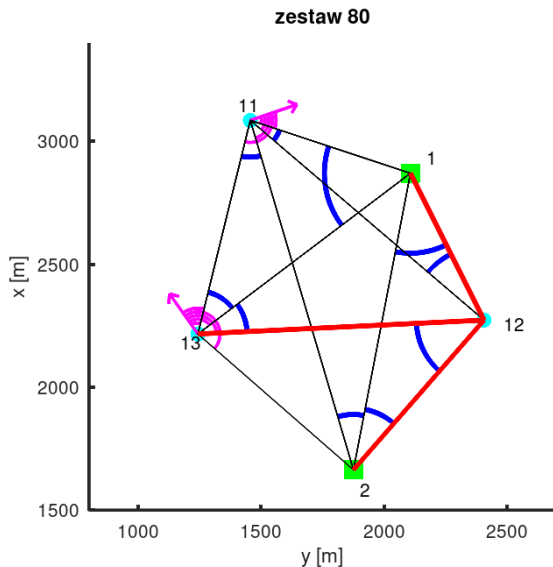
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 15,1       |
| 11 | 12 | 24,69111   | 13,9       |
| 11 | 2  | 61,38855   | 17,9       |
| 11 | 13 | 94,97028   | 16,7       |
| 11 | 1  | 0,00009    | 15,1       |
| 13 | 11 | 0,00000    | 15,7       |
| 13 | 1  | 43,47627   | 19,1       |
| 13 | 12 | 81,60034   | 16,4       |
| 13 | 2  | 130,38074  | 14,8       |
| 13 | 11 | 0,00006    | 15,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69080        | 13,9            |
| 2  | 11 | 13 | 33,58198        | 18,5            |
| 11 | 13 | 1  | 43,47608        | 10,5            |
| 1  | 13 | 12 | 38,12444        | 17,9            |
| 11 | 2  | 1  | 30,35969        | 13,0            |
| 1  | 2  | 12 | 33,56448        | 14,8            |
| 2  | 12 | 13 | 51,25818        | 16,7            |
| 11 | 12 | 1  | 25,40179        | 14,8            |
| 12 | 1  | 2  | 41,65506        | 18,8            |
| 13 | 1  | 11 | 61,55336        | 19,4            |

## Zestaw 80: poglądowy szkic sieci



## Zestaw 81: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2305,094 | 1297,093 |
| 2  | 3002,816 | 2307,735 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 12 | 667,800  | 0,039     |
| 1 | 11 | 686,009  | 0,036     |
| 2 | 11 | 1481,999 | 0,075     |

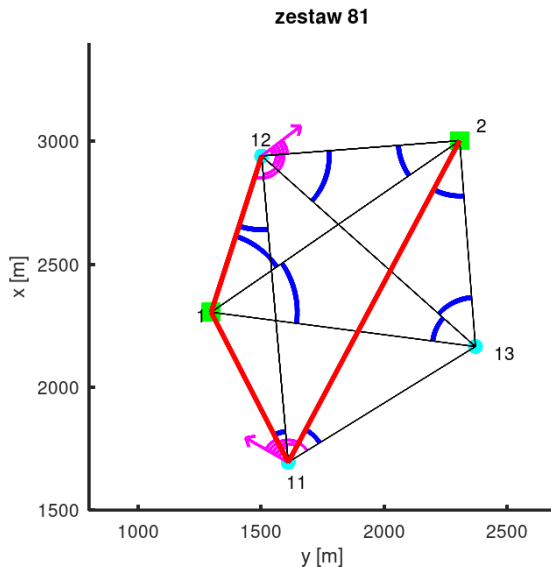
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69105   | 18,8       |
| 11 | 2  | 61,38809   | 15,4       |
| 11 | 13 | 94,97046   | 17,6       |
| 11 | 1  | 0,00015    | 17,9       |
| 12 | 2  | 0,00000    | 15,7       |
| 12 | 13 | 51,25812   | 14,5       |
| 12 | 11 | 99,37821   | 15,1       |
| 12 | 1  | 124,78037  | 17,0       |
| 12 | 2  | 0,00003    | 15,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69074        | 14,2            |
| 2  | 11 | 13 | 33,58216        | 15,7            |
| 1  | 13 | 12 | 38,12432        | 14,8            |
| 12 | 13 | 2  | 48,78052        | 12,0            |
| 13 | 2  | 11 | 36,03704        | 13,9            |
| 1  | 2  | 12 | 33,56497        | 17,9            |
| 2  | 12 | 13 | 51,25830        | 16,0            |
| 11 | 12 | 1  | 25,40210        | 18,2            |
| 12 | 1  | 2  | 41,65500        | 13,6            |
| 2  | 1  | 13 | 46,69873        | 18,5            |

## Zestaw 81: poglądowy szkic sieci



## Zestaw 82: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2763,962 | 1408,263 |
| 2  | 2386,912 | 2577,043 |

### Obserwacje odległości

| p  | k  | d [m]    | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,689 | 0,054     |
| 12 | 11 | 1250,406 | 0,060     |
| 12 | 13 | 1164,928 | 0,068     |

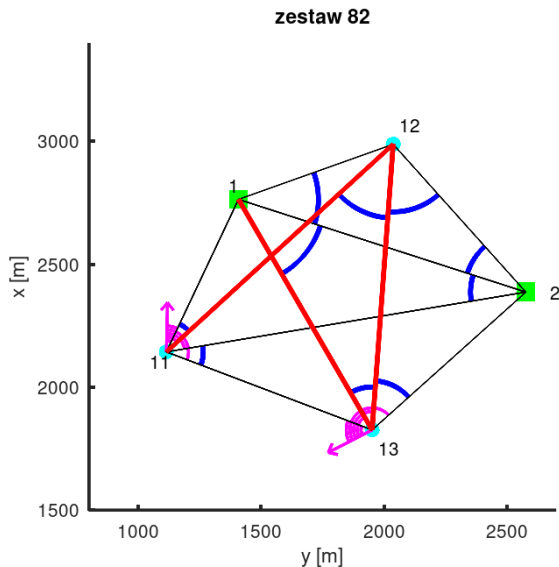
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 14,5       |
| 13 | 1  | 43,47627   | 14,8       |
| 13 | 12 | 81,60034   | 15,1       |
| 13 | 2  | 130,38068  | 18,2       |
| 13 | 11 | 399,99972  | 14,5       |
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69108   | 18,5       |
| 11 | 2  | 61,38849   | 17,0       |
| 11 | 13 | 94,97009   | 13,6       |
| 11 | 1  | 0,00012    | 17,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69127        | 16,0            |
| 2  | 11 | 13 | 33,58185        | 18,8            |
| 1  | 13 | 12 | 38,12401        | 12,3            |
| 12 | 13 | 2  | 48,78052        | 14,5            |
| 11 | 2  | 1  | 30,35954        | 17,0            |
| 1  | 2  | 12 | 33,56463        | 14,5            |
| 2  | 12 | 13 | 51,25824        | 13,3            |
| 13 | 12 | 11 | 48,12040        | 18,5            |
| 12 | 1  | 2  | 41,65478        | 17,0            |
| 2  | 1  | 13 | 46,69849        | 14,2            |

## Zestaw 82: poglądowy szkic sieci



## Zestaw 83: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2210,103 | 2307,891 |
| 2  | 2239,675 | 1080,154 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 2  | 807,798  | 0,043     |
| 2  | 11 | 1481,999 | 0,066     |
| 11 | 13 | 894,795  | 0,049     |

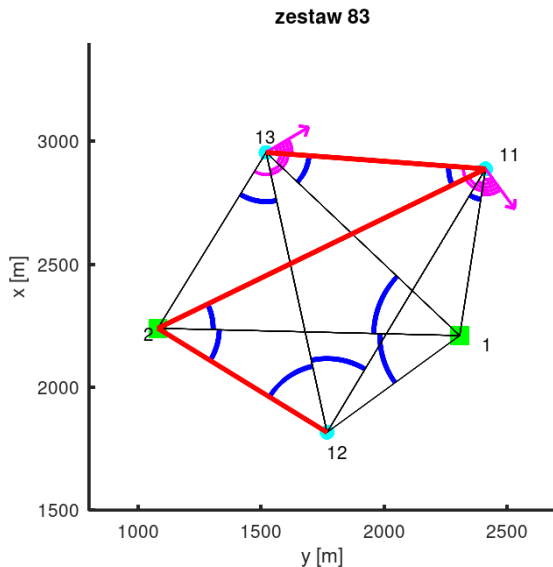
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 14,8       |
| 13 | 1  | 43,47633   | 19,4       |
| 13 | 12 | 81,60025   | 13,9       |
| 13 | 2  | 130,38062  | 17,9       |
| 13 | 11 | 0,00022    | 14,8       |
| 11 | 1  | 0,00000    | 15,7       |
| 11 | 12 | 24,69093   | 17,9       |
| 11 | 2  | 61,38852   | 12,7       |
| 11 | 13 | 94,97068   | 17,3       |
| 11 | 1  | 0,00028    | 15,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69114        | 17,0            |
| 2  | 11 | 13 | 33,58210        | 16,4            |
| 11 | 13 | 1  | 43,47593        | 14,5            |
| 12 | 13 | 2  | 48,78056        | 15,4            |
| 11 | 2  | 1  | 30,35951        | 13,0            |
| 1  | 2  | 12 | 33,56475        | 17,3            |
| 2  | 12 | 13 | 51,25806        | 13,9            |
| 13 | 12 | 11 | 48,12040        | 18,2            |
| 12 | 1  | 2  | 41,65475        | 17,0            |
| 2  | 1  | 13 | 46,69849        | 13,6            |

## Zestaw 83: poglądowy szkic sieci



## Zestaw 84: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1889,135 | 1851,730 |
| 2  | 2996,482 | 1320,698 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,813  | 0,038     |
| 12 | 11 | 1250,408 | 0,058     |
| 11 | 13 | 894,793  | 0,052     |

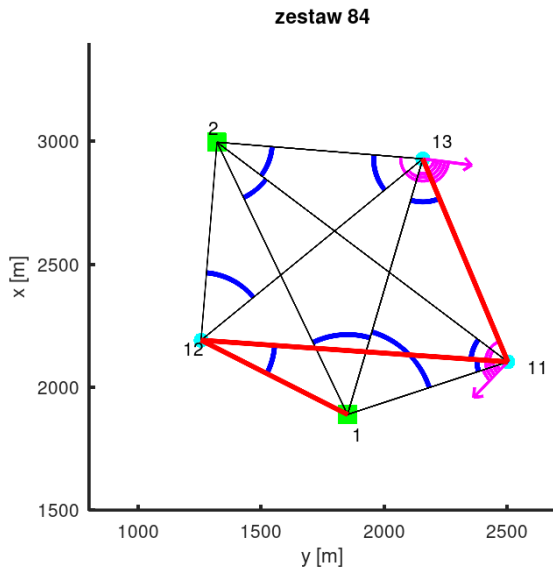
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,3       |
| 11 | 12 | 24,69096   | 16,0       |
| 11 | 2  | 61,38827   | 12,7       |
| 11 | 13 | 94,97037   | 13,9       |
| 11 | 1  | 399,99972  | 17,3       |
| 13 | 11 | 0,00000    | 17,0       |
| 13 | 1  | 43,47602   | 13,6       |
| 13 | 12 | 81,60028   | 13,0       |
| 13 | 2  | 130,38046  | 13,3       |
| 13 | 11 | 399,99985  | 17,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69090        | 14,8            |
| 12 | 11 | 2  | 36,69722        | 15,1            |
| 11 | 13 | 1  | 43,47614        | 16,0            |
| 12 | 13 | 2  | 48,78022        | 15,4            |
| 13 | 2  | 11 | 36,03691        | 11,4            |
| 11 | 2  | 1  | 30,35972        | 12,0            |
| 2  | 12 | 13 | 51,25793        | 16,7            |
| 11 | 12 | 1  | 25,40164        | 17,3            |
| 2  | 1  | 13 | 46,69861        | 18,2            |
| 13 | 1  | 11 | 61,55352        | 16,0            |

## Zestaw 84: poglądowy szkic sieci



## Zestaw 85: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2622,893 | 2312,348 |
| 2  | 1767,936 | 1430,724 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,415 | 0,058     |
| 12 | 2  | 807,786  | 0,037     |
| 2  | 11 | 1482,009 | 0,068     |

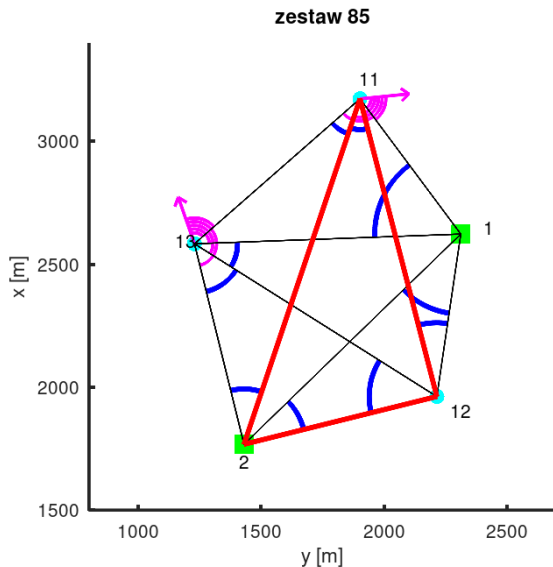
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,3       |
| 13 | 1  | 43,47596   | 15,1       |
| 13 | 12 | 81,60046   | 12,3       |
| 13 | 2  | 130,38090  | 17,6       |
| 13 | 11 | 0,00019    | 17,3       |
| 11 | 1  | 0,00000    | 16,7       |
| 11 | 12 | 24,69077   | 15,1       |
| 11 | 2  | 61,38830   | 18,2       |
| 11 | 13 | 94,97043   | 18,2       |
| 11 | 1  | 399,99988  | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69704        | 16,7            |
| 2  | 11 | 13 | 33,58204        | 13,3            |
| 1  | 13 | 12 | 38,12410        | 15,4            |
| 12 | 13 | 2  | 48,78022        | 14,2            |
| 13 | 2  | 11 | 36,03701        | 14,2            |
| 1  | 2  | 12 | 33,56466        | 14,2            |
| 2  | 12 | 13 | 51,25784        | 16,4            |
| 11 | 12 | 1  | 25,40188        | 16,7            |
| 12 | 1  | 2  | 41,65478        | 13,3            |
| 13 | 1  | 11 | 61,55327        | 17,0            |

# Zestaw 85: poglądowy szkic sieci



## Zestaw 86: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1968,520 | 1536,119 |
| 2  | 3178,401 | 1746,837 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,017  | 0,035     |
| 12 | 13 | 1164,920 | 0,067     |
| 2  | 13 | 839,839  | 0,042     |

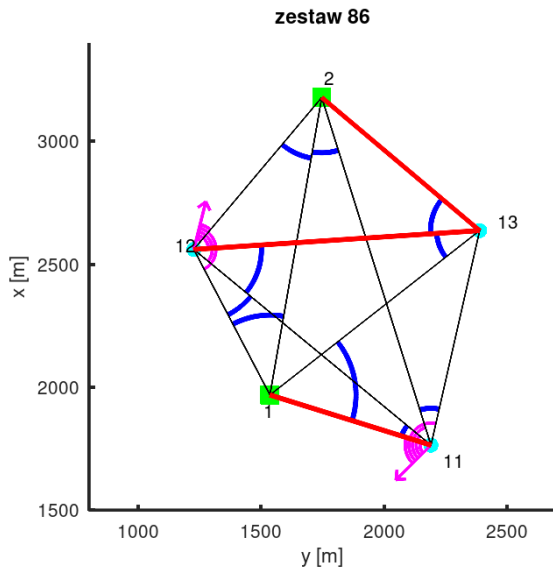
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 13,6       |
| 11 | 12 | 24,69130   | 18,8       |
| 11 | 2  | 61,38836   | 14,8       |
| 11 | 13 | 94,97059   | 14,5       |
| 11 | 1  | 0,00015    | 13,6       |
| 12 | 2  | 0,00000    | 13,9       |
| 12 | 13 | 51,25784   | 19,4       |
| 12 | 11 | 99,37818   | 15,7       |
| 12 | 1  | 124,78019  | 14,8       |
| 12 | 2  | 399,99994  | 13,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69108        | 17,9            |
| 2  | 11 | 13 | 33,58198        | 17,3            |
| 1  | 13 | 12 | 38,12451        | 12,7            |
| 12 | 13 | 2  | 48,78052        | 12,3            |
| 11 | 2  | 1  | 30,35938        | 13,3            |
| 1  | 2  | 12 | 33,56469        | 17,0            |
| 13 | 12 | 11 | 48,12019        | 18,5            |
| 11 | 12 | 1  | 25,40179        | 17,6            |
| 12 | 1  | 2  | 41,65475        | 13,9            |
| 13 | 1  | 11 | 61,55333        | 18,8            |

## Zestaw 86: poglądowy szkic sieci



## Zestaw 87: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2648,493 | 2301,147 |
| 2  | 1748,568 | 1465,476 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 12 | 667,815  | 0,035     |
| 1 | 13 | 1083,692 | 0,053     |
| 1 | 11 | 686,024  | 0,039     |

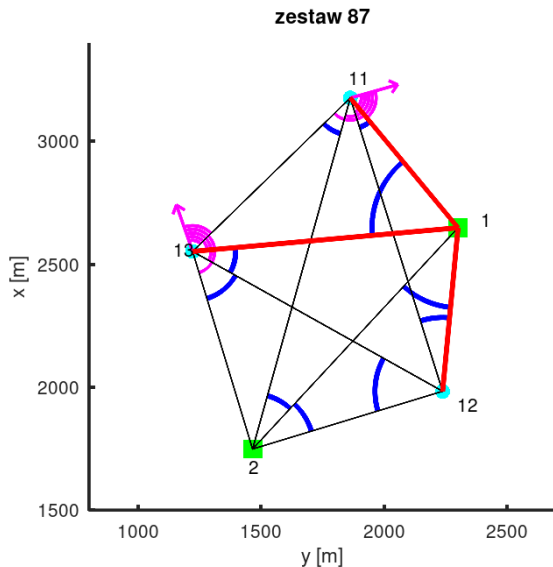
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69127   | 16,4       |
| 11 | 2  | 61,38855   | 13,6       |
| 11 | 13 | 94,97034   | 17,3       |
| 11 | 1  | 0,00003    | 17,9       |
| 13 | 11 | 0,00000    | 16,7       |
| 13 | 1  | 43,47577   | 14,5       |
| 13 | 12 | 81,60059   | 12,7       |
| 13 | 2  | 130,38077  | 17,0       |
| 13 | 11 | 399,99988  | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69080        | 16,4            |
| 2  | 11 | 13 | 33,58231        | 18,2            |
| 1  | 13 | 12 | 38,12451        | 12,0            |
| 12 | 13 | 2  | 48,78052        | 15,7            |
| 11 | 2  | 1  | 30,35972        | 16,7            |
| 1  | 2  | 12 | 33,56444        | 19,1            |
| 2  | 12 | 13 | 51,25784        | 13,6            |
| 11 | 12 | 1  | 25,40213        | 19,1            |
| 12 | 1  | 2  | 41,65472        | 18,2            |
| 13 | 1  | 11 | 61,55343        | 15,4            |

## Zestaw 87: poglądowy szkic sieci



## Zestaw 88: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2074,241 | 1412,854 |
| 2  | 3164,760 | 1977,637 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,401 | 0,065     |
| 12 | 13 | 1164,924 | 0,065     |
| 2  | 13 | 839,841  | 0,036     |

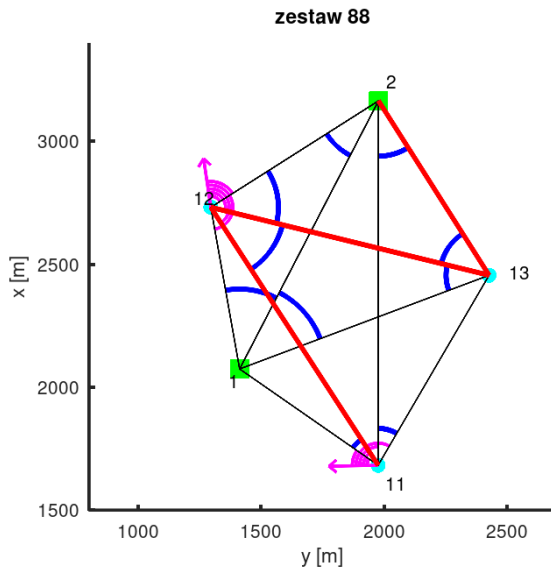
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 18,2       |
| 12 | 13 | 51,25812   | 18,5       |
| 12 | 11 | 99,37818   | 13,6       |
| 12 | 1  | 124,78003  | 17,6       |
| 12 | 2  | 0,00022    | 18,2       |
| 11 | 1  | 0,00000    | 16,0       |
| 11 | 12 | 24,69090   | 16,4       |
| 11 | 2  | 61,38815   | 18,2       |
| 11 | 13 | 94,97037   | 13,6       |
| 11 | 1  | 399,99972  | 16,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69127        | 17,9            |
| 2  | 11 | 13 | 33,58201        | 19,1            |
| 1  | 13 | 12 | 38,12420        | 13,3            |
| 12 | 13 | 2  | 48,78009        | 16,0            |
| 13 | 2  | 11 | 36,03738        | 14,2            |
| 1  | 2  | 12 | 33,56494        | 19,1            |
| 2  | 12 | 13 | 51,25833        | 18,5            |
| 13 | 12 | 11 | 48,12052        | 13,6            |
| 12 | 1  | 2  | 41,65494        | 14,2            |
| 2  | 1  | 13 | 46,69836        | 17,9            |

## Zestaw 88: poglądowy szkic sieci



## Zestaw 89: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2332,512 | 1291,698 |
| 2  | 2976,385 | 2337,471 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,026  | 0,042     |
| 12 | 11 | 1250,406 | 0,059     |
| 12 | 2  | 807,801  | 0,042     |

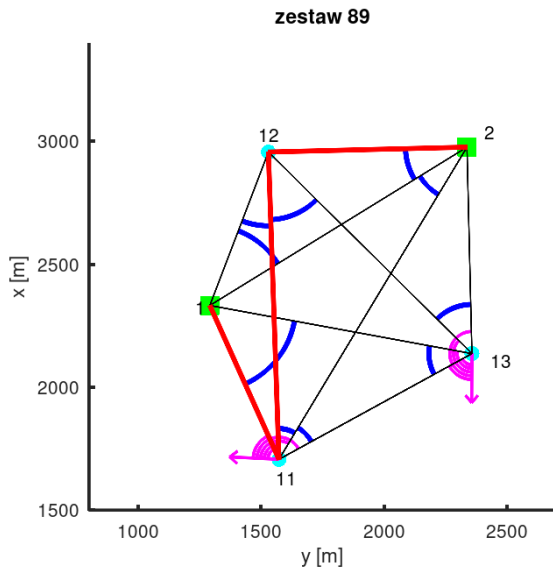
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,1       |
| 13 | 1  | 43,47620   | 14,2       |
| 13 | 12 | 81,60009   | 12,7       |
| 13 | 2  | 130,38080  | 13,6       |
| 13 | 11 | 0,00006    | 15,1       |
| 11 | 1  | 0,00000    | 15,4       |
| 11 | 12 | 24,69090   | 13,6       |
| 11 | 2  | 61,38824   | 12,7       |
| 11 | 13 | 94,97043   | 16,4       |
| 11 | 1  | 399,99978  | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69707        | 14,2            |
| 2  | 11 | 13 | 33,58194        | 18,8            |
| 11 | 13 | 1  | 43,47614        | 11,1            |
| 12 | 13 | 2  | 48,78019        | 15,4            |
| 11 | 2  | 1  | 30,35932        | 14,5            |
| 1  | 2  | 12 | 33,56475        | 17,9            |
| 13 | 12 | 11 | 48,12028        | 16,0            |
| 11 | 12 | 1  | 25,40167        | 15,4            |
| 12 | 1  | 2  | 41,65497        | 17,0            |
| 13 | 1  | 11 | 61,55383        | 19,4            |

## Zestaw 89: poglądowy szkic sieci



## Zestaw 90: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2006,243 | 1482,977 |
| 2  | 3181,425 | 1839,572 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,808  | 0,033     |
| 1  | 11 | 686,025  | 0,044     |
| 12 | 13 | 1164,915 | 0,061     |

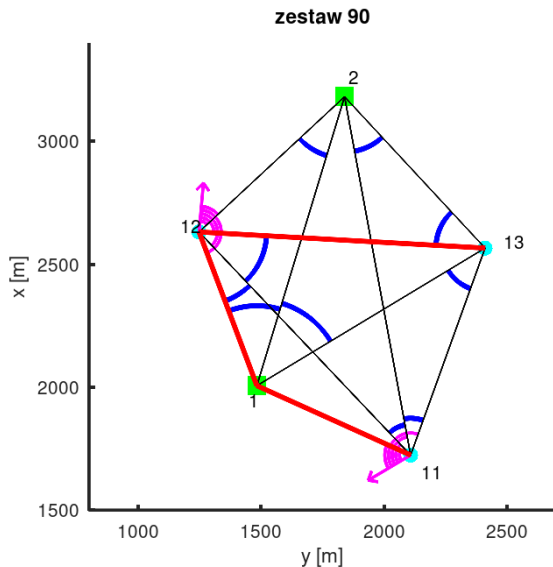
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 14,2       |
| 11 | 12 | 24,69111   | 17,0       |
| 11 | 2  | 61,38840   | 14,2       |
| 11 | 13 | 94,97034   | 15,4       |
| 11 | 1  | 0,00006    | 14,2       |
| 12 | 2  | 0,00000    | 14,5       |
| 12 | 13 | 51,25836   | 17,0       |
| 12 | 11 | 99,37818   | 14,8       |
| 12 | 1  | 124,78049  | 13,3       |
| 12 | 2  | 399,99994  | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69719        | 18,2            |
| 2  | 11 | 13 | 33,58194        | 18,2            |
| 11 | 13 | 1  | 43,47596        | 16,0            |
| 12 | 13 | 2  | 48,78059        | 13,6            |
| 13 | 2  | 11 | 36,03722        | 11,1            |
| 1  | 2  | 12 | 33,56469        | 18,5            |
| 13 | 12 | 11 | 48,12012        | 12,7            |
| 11 | 12 | 1  | 25,40191        | 13,9            |
| 12 | 1  | 2  | 41,65488        | 15,7            |
| 2  | 1  | 13 | 46,69836        | 14,2            |

## Zestaw 90: poglądowy szkic sieci



## Zestaw 91: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2180,587 | 2294,053 |
| 2  | 2285,055 | 1070,411 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 11 | 686,015  | 0,039     |
| 12 | 13 | 1164,931 | 0,067     |
| 11 | 13 | 894,799  | 0,044     |

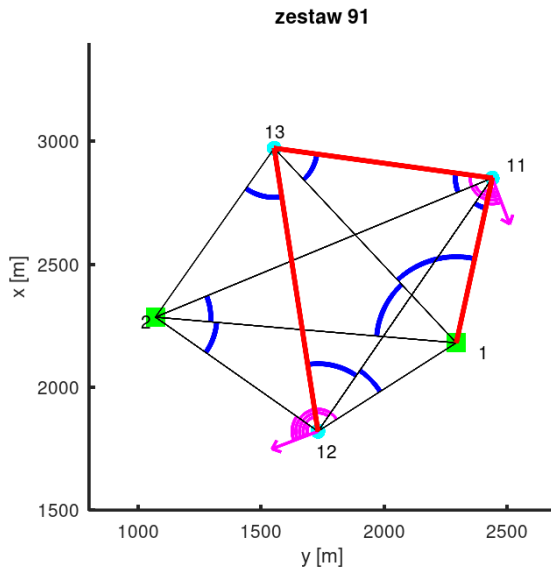
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 14,5       |
| 12 | 13 | 51,25827   | 14,2       |
| 12 | 11 | 99,37852   | 13,9       |
| 12 | 1  | 124,78037  | 16,0       |
| 12 | 2  | 0,00019    | 14,5       |
| 11 | 1  | 0,00000    | 19,4       |
| 11 | 12 | 24,69127   | 19,1       |
| 11 | 2  | 61,38843   | 13,3       |
| 11 | 13 | 94,97049   | 16,0       |
| 11 | 1  | 399,99978  | 19,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69123        | 14,5            |
| 2  | 11 | 13 | 33,58185        | 17,3            |
| 11 | 13 | 1  | 43,47617        | 13,6            |
| 12 | 13 | 2  | 48,78059        | 16,7            |
| 11 | 2  | 1  | 30,35978        | 17,3            |
| 1  | 2  | 12 | 33,56475        | 15,1            |
| 13 | 12 | 11 | 48,12059        | 16,4            |
| 11 | 12 | 1  | 25,40185        | 17,9            |
| 2  | 1  | 13 | 46,69849        | 13,0            |
| 13 | 1  | 11 | 61,55343        | 13,9            |

## Zestaw 91: poglądowy szkic sieci



## Zestaw 92: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2176,441 | 2291,929 |
| 2  | 2291,583 | 1069,246 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,926 | 0,068     |
| 2  | 11 | 1481,995 | 0,074     |
| 11 | 13 | 894,797  | 0,051     |

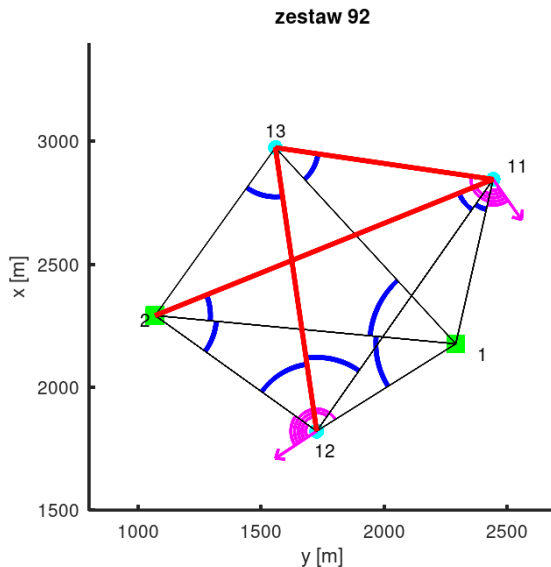
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 18,2       |
| 12 | 13 | 51,25833   | 18,5       |
| 12 | 11 | 99,37843   | 16,0       |
| 12 | 1  | 124,78043  | 19,1       |
| 12 | 2  | 0,00003    | 18,2       |
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69120   | 19,4       |
| 11 | 2  | 61,38836   | 17,3       |
| 11 | 13 | 94,97059   | 14,8       |
| 11 | 1  | 399,99975  | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69074        | 18,2            |
| 12 | 11 | 2  | 36,69725        | 14,8            |
| 11 | 13 | 1  | 43,47580        | 14,8            |
| 12 | 13 | 2  | 48,78068        | 15,7            |
| 11 | 2  | 1  | 30,35941        | 12,0            |
| 1  | 2  | 12 | 33,56469        | 17,6            |
| 2  | 12 | 13 | 51,25787        | 18,5            |
| 13 | 12 | 11 | 48,12028        | 16,0            |
| 12 | 1  | 2  | 41,65509        | 16,4            |
| 2  | 1  | 13 | 46,69877        | 14,5            |

## Zestaw 92: poglądowy szkic sieci



## Zestaw 93: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2852,905 | 1503,205 |
| 2  | 2204,301 | 2546,050 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,814  | 0,034     |
| 12 | 11 | 1250,404 | 0,061     |
| 2  | 11 | 1482,002 | 0,075     |

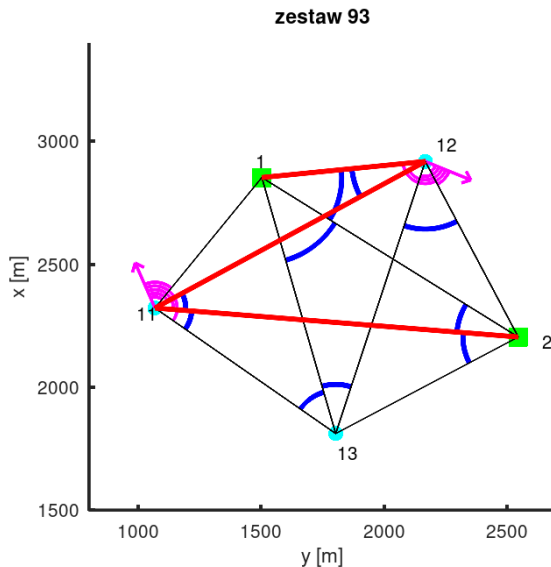
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 15,4       |
| 11 | 12 | 24,69096   | 17,6       |
| 11 | 2  | 61,38824   | 13,3       |
| 11 | 13 | 94,97025   | 17,6       |
| 11 | 1  | 0,00019    | 15,4       |
| 12 | 2  | 0,00000    | 15,4       |
| 12 | 13 | 51,25806   | 18,8       |
| 12 | 11 | 99,37827   | 14,8       |
| 12 | 1  | 124,78028  | 19,1       |
| 12 | 2  | 399,99969  | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69719        | 12,7            |
| 2  | 11 | 13 | 33,58179        | 16,0            |
| 11 | 13 | 1  | 43,47611        | 10,8            |
| 1  | 13 | 12 | 38,12448        | 13,3            |
| 13 | 2  | 11 | 36,03691        | 15,7            |
| 11 | 2  | 1  | 30,35960        | 17,6            |
| 2  | 12 | 13 | 51,25787        | 18,2            |
| 11 | 12 | 1  | 25,40182        | 13,6            |
| 12 | 1  | 2  | 41,65460        | 14,8            |
| 2  | 1  | 13 | 46,69883        | 18,5            |

## Zestaw 93: poglądowy szkic sieci



## Zestaw 94: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2300,553 | 1298,131 |
| 2  | 3007,068 | 2302,646 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,925 | 0,060     |
| 12 | 2  | 807,799  | 0,043     |
| 2  | 13 | 839,851  | 0,037     |

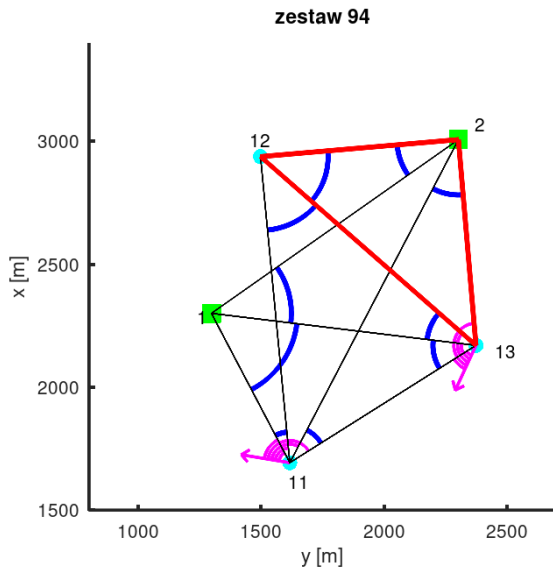
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,1       |
| 13 | 1  | 43,47583   | 15,7       |
| 13 | 12 | 81,60009   | 14,5       |
| 13 | 2  | 130,38065  | 13,3       |
| 13 | 11 | 399,99978  | 15,1       |
| 11 | 1  | 0,00000    | 16,7       |
| 11 | 12 | 24,69117   | 17,6       |
| 11 | 2  | 61,38836   | 14,5       |
| 11 | 13 | 94,97068   | 18,8       |
| 11 | 1  | 0,00006    | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69114        | 17,3            |
| 2  | 11 | 13 | 33,58207        | 18,8            |
| 11 | 13 | 1  | 43,47617        | 10,2            |
| 1  | 13 | 12 | 38,12423        | 12,3            |
| 13 | 2  | 11 | 36,03738        | 11,7            |
| 1  | 2  | 12 | 33,56460        | 18,5            |
| 2  | 12 | 13 | 51,25806        | 17,3            |
| 13 | 12 | 11 | 48,12022        | 13,9            |
| 2  | 1  | 13 | 46,69880        | 17,3            |
| 13 | 1  | 11 | 61,55333        | 17,6            |

## Zestaw 94: poglądowy szkic sieci



## Zestaw 95: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2926,083 | 1642,996 |
| 2  | 2000,922 | 2450,640 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,813  | 0,036     |
| 12 | 11 | 1250,420 | 0,059     |
| 12 | 13 | 1164,915 | 0,067     |

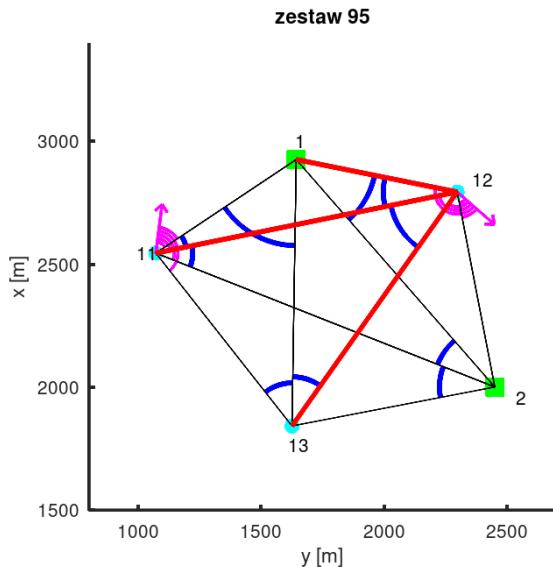
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69096   | 13,9       |
| 11 | 2  | 61,38802   | 15,4       |
| 11 | 13 | 94,97009   | 17,0       |
| 11 | 1  | 399,99985  | 17,9       |
| 12 | 2  | 0,00000    | 14,5       |
| 12 | 13 | 51,25827   | 16,4       |
| 12 | 11 | 99,37827   | 14,8       |
| 12 | 1  | 124,78043  | 13,3       |
| 12 | 2  | 0,00003    | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69117        | 18,5            |
| 12 | 11 | 2  | 36,69744        | 17,6            |
| 11 | 13 | 1  | 43,47617        | 13,3            |
| 1  | 13 | 12 | 38,12410        | 13,3            |
| 13 | 2  | 11 | 36,03747        | 14,5            |
| 11 | 2  | 1  | 30,35935        | 13,3            |
| 13 | 12 | 11 | 48,12056        | 13,0            |
| 11 | 12 | 1  | 25,40160        | 14,2            |
| 12 | 1  | 2  | 41,65506        | 17,0            |
| 13 | 1  | 11 | 61,55367        | 15,1            |

# Zestaw 95: poglądowy szkic sieci



## Zestaw 96: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2022,870 | 2172,513 |
| 2  | 2568,535 | 1072,303 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,810  | 0,042     |
| 12 | 11 | 1250,406 | 0,061     |
| 2  | 11 | 1482,005 | 0,075     |

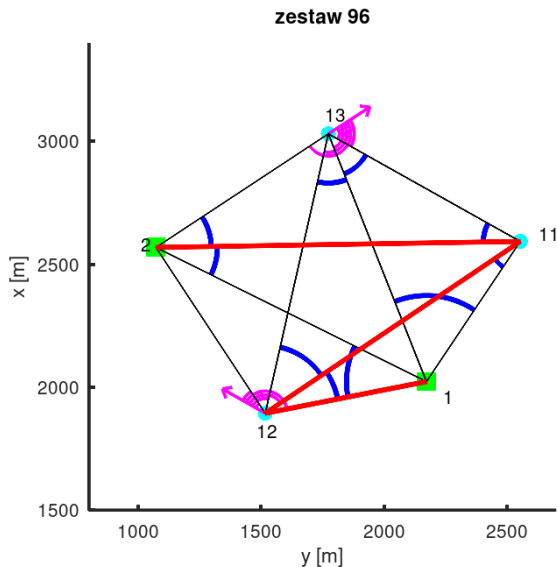
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 18,5       |
| 12 | 13 | 51,25836   | 17,0       |
| 12 | 11 | 99,37861   | 16,0       |
| 12 | 1  | 124,78059  | 19,1       |
| 12 | 2  | 0,00019    | 18,5       |
| 13 | 11 | 0,00000    | 17,0       |
| 13 | 1  | 43,47602   | 19,4       |
| 13 | 12 | 81,60043   | 12,3       |
| 13 | 2  | 130,38080  | 15,4       |
| 13 | 11 | 0,00009    | 17,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69077        | 15,4            |
| 2  | 11 | 13 | 33,58185        | 16,4            |
| 11 | 13 | 1  | 43,47577        | 15,4            |
| 1  | 13 | 12 | 38,12429        | 12,3            |
| 13 | 2  | 11 | 36,03710        | 13,3            |
| 11 | 2  | 1  | 30,35969        | 14,8            |
| 13 | 12 | 11 | 48,12015        | 14,2            |
| 11 | 12 | 1  | 25,40176        | 17,0            |
| 12 | 1  | 2  | 41,65497        | 13,3            |
| 13 | 1  | 11 | 61,55324        | 14,5            |

## Zestaw 96: poglądowy szkic sieci



## Zestaw 97: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1913,136 | 1979,592 |
| 2  | 2859,122 | 1196,443 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,415 | 0,058     |
| 12 | 13 | 1164,917 | 0,068     |
| 2  | 11 | 1482,007 | 0,072     |

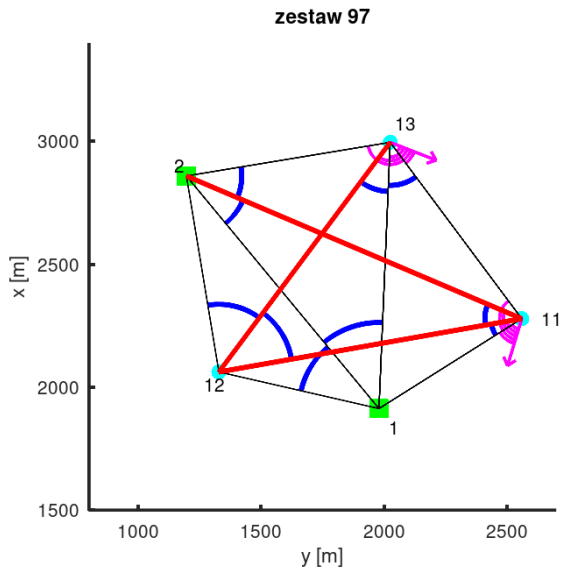
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69127   | 19,1       |
| 11 | 2  | 61,38830   | 14,5       |
| 11 | 13 | 94,97062   | 16,7       |
| 11 | 1  | 399,99981  | 14,5       |
| 13 | 11 | 0,00000    | 14,2       |
| 13 | 1  | 43,47627   | 17,6       |
| 13 | 12 | 81,60059   | 15,1       |
| 13 | 2  | 130,38096  | 16,0       |
| 13 | 11 | 399,99981  | 14,2       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69114        | 16,7            |
| 12 | 11 | 2  | 36,69713        | 12,3            |
| 11 | 13 | 1  | 43,47605        | 12,0            |
| 1  | 13 | 12 | 38,12444        | 14,2            |
| 13 | 2  | 11 | 36,03701        | 15,1            |
| 11 | 2  | 1  | 30,35963        | 16,0            |
| 2  | 12 | 13 | 51,25824        | 18,5            |
| 13 | 12 | 11 | 48,12031        | 17,6            |
| 12 | 1  | 2  | 41,65463        | 14,2            |
| 2  | 1  | 13 | 46,69886        | 18,2            |

## Zestaw 97: poglądowy szkic sieci



## Zestaw 98: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2240,410 | 2319,902 |
| 2  | 2194,975 | 1092,649 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,693 | 0,050     |
| 1  | 11 | 686,014  | 0,044     |
| 11 | 13 | 894,803  | 0,044     |

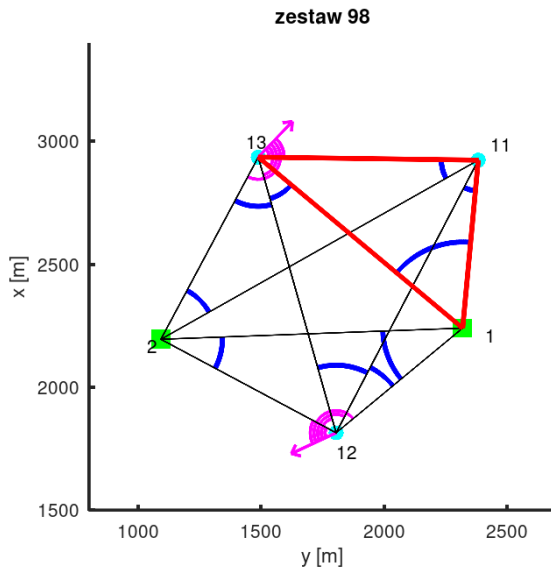
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 19,1       |
| 13 | 1  | 43,47596   | 18,8       |
| 13 | 12 | 81,60012   | 13,0       |
| 13 | 2  | 130,38068  | 17,0       |
| 13 | 11 | 0,00012    | 19,1       |
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25836   | 17,9       |
| 12 | 11 | 99,37852   | 14,5       |
| 12 | 1  | 124,78019  | 15,4       |
| 12 | 2  | 0,00015    | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69074        | 16,0            |
| 2  | 11 | 13 | 33,58222        | 13,6            |
| 1  | 13 | 12 | 38,12401        | 17,9            |
| 12 | 13 | 2  | 48,78025        | 15,7            |
| 13 | 2  | 11 | 36,03710        | 13,0            |
| 1  | 2  | 12 | 33,56448        | 16,7            |
| 13 | 12 | 11 | 48,12059        | 16,7            |
| 11 | 12 | 1  | 25,40216        | 13,9            |
| 12 | 1  | 2  | 41,65512        | 17,6            |
| 13 | 1  | 11 | 61,55377        | 18,2            |

## Zestaw 98: poglądowy szkic sieci



## Zestaw 99: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1897,226 | 1916,395 |
| 2  | 2931,602 | 1254,370 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,405 | 0,061     |
| 2  | 11 | 1481,998 | 0,069     |
| 11 | 13 | 894,794  | 0,047     |

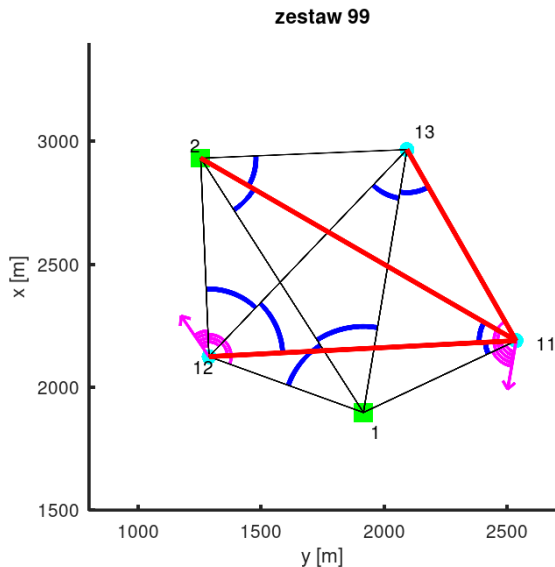
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 16,0       |
| 11 | 12 | 24,69077   | 18,8       |
| 11 | 2  | 61,38824   | 15,4       |
| 11 | 13 | 94,97015   | 18,5       |
| 11 | 1  | 399,99985  | 16,0       |
| 12 | 2  | 0,00000    | 18,2       |
| 12 | 13 | 51,25840   | 16,4       |
| 12 | 11 | 99,37849   | 16,4       |
| 12 | 1  | 124,78059  | 19,1       |
| 12 | 2  | 399,99985  | 18,2       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69071        | 16,4            |
| 12 | 11 | 2  | 36,69704        | 13,6            |
| 11 | 13 | 1  | 43,47602        | 15,7            |
| 1  | 13 | 12 | 38,12420        | 15,7            |
| 13 | 2  | 11 | 36,03713        | 10,8            |
| 11 | 2  | 1  | 30,35932        | 12,0            |
| 2  | 12 | 13 | 51,25812        | 15,7            |
| 13 | 12 | 11 | 48,12037        | 18,5            |
| 12 | 1  | 2  | 41,65515        | 17,0            |
| 2  | 1  | 13 | 46,69877        | 16,0            |

## Zestaw 99: poglądowy szkic sieci



## Zestaw 100: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1896,780 | 1721,860 |
| 2  | 3099,702 | 1474,493 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,803  | 0,036     |
| 12 | 13 | 1164,922 | 0,059     |
| 12 | 2  | 807,792  | 0,044     |

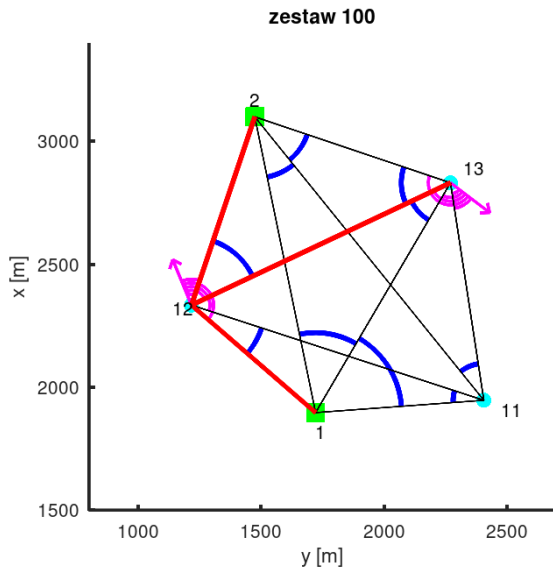
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,0       |
| 13 | 1  | 43,47583   | 14,5       |
| 13 | 12 | 81,60025   | 13,9       |
| 13 | 2  | 130,38074  | 14,5       |
| 13 | 11 | 0,00025    | 16,0       |
| 12 | 2  | 0,00000    | 16,7       |
| 12 | 13 | 51,25840   | 17,0       |
| 12 | 11 | 99,37849   | 14,8       |
| 12 | 1  | 124,78006  | 18,5       |
| 12 | 2  | 0,00012    | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69080        | 19,4            |
| 2  | 11 | 13 | 33,58222        | 17,3            |
| 1  | 13 | 12 | 38,12420        | 12,0            |
| 12 | 13 | 2  | 48,78037        | 14,8            |
| 13 | 2  | 11 | 36,03707        | 14,8            |
| 11 | 2  | 1  | 30,35972        | 13,9            |
| 2  | 12 | 13 | 51,25790        | 15,1            |
| 11 | 12 | 1  | 25,40167        | 13,9            |
| 2  | 1  | 13 | 46,69836        | 13,3            |
| 13 | 1  | 11 | 61,55324        | 15,7            |

# Zestaw 100: poglądowy szkic sieci



## Zestaw 101: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2618,571 | 2314,084 |
| 2  | 1771,340 | 1425,032 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,693 | 0,052     |
| 1  | 11 | 686,007  | 0,041     |
| 11 | 13 | 894,808  | 0,044     |

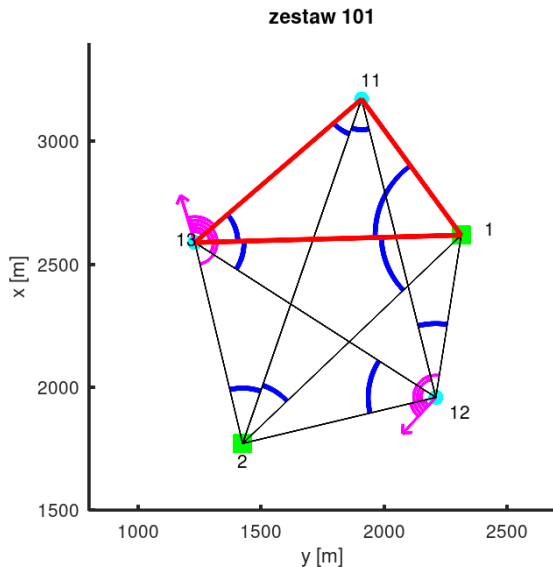
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,7       |
| 13 | 1  | 43,47586   | 14,8       |
| 13 | 12 | 81,60037   | 15,1       |
| 13 | 2  | 130,38052  | 16,4       |
| 13 | 11 | 399,99969  | 16,7       |
| 12 | 2  | 0,00000    | 19,1       |
| 12 | 13 | 51,25824   | 15,4       |
| 12 | 11 | 99,37849   | 13,0       |
| 12 | 1  | 124,78031  | 15,1       |
| 12 | 2  | 399,99991  | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69719        | 17,0            |
| 2  | 11 | 13 | 33,58231        | 16,0            |
| 11 | 13 | 1  | 43,47614        | 12,7            |
| 1  | 13 | 12 | 38,12426        | 13,0            |
| 13 | 2  | 11 | 36,03747        | 12,0            |
| 11 | 2  | 1  | 30,35923        | 17,0            |
| 2  | 12 | 13 | 51,25836        | 18,5            |
| 11 | 12 | 1  | 25,40210        | 16,4            |
| 2  | 1  | 13 | 46,69858        | 13,6            |
| 13 | 1  | 11 | 61,55373        | 18,8            |

# Zestaw 101: poglądowy szkic sieci



## Zestaw 102: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2594,427 | 1312,857 |
| 2  | 2661,274 | 2539,130 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,807  | 0,040     |
| 2  | 11 | 1482,005 | 0,071     |
| 11 | 13 | 894,796  | 0,050     |

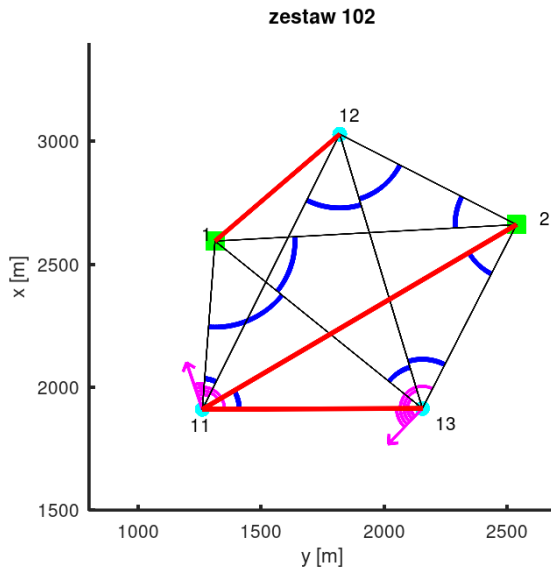
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 16,0       |
| 11 | 12 | 24,69111   | 19,1       |
| 11 | 2  | 61,38806   | 14,5       |
| 11 | 13 | 94,97049   | 13,6       |
| 11 | 1  | 399,99972  | 16,0       |
| 13 | 11 | 0,00000    | 16,0       |
| 13 | 1  | 43,47633   | 13,6       |
| 13 | 12 | 81,60000   | 16,7       |
| 13 | 2  | 130,38077  | 16,0       |
| 13 | 11 | 0,00022    | 16,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69077        | 14,5            |
| 2  | 11 | 13 | 33,58201        | 17,0            |
| 1  | 13 | 12 | 38,12448        | 13,9            |
| 12 | 13 | 2  | 48,78046        | 15,4            |
| 13 | 2  | 11 | 36,03722        | 13,9            |
| 1  | 2  | 12 | 33,56457        | 13,9            |
| 2  | 12 | 13 | 51,25824        | 14,5            |
| 13 | 12 | 11 | 48,12043        | 14,2            |
| 2  | 1  | 13 | 46,69892        | 13,6            |
| 13 | 1  | 11 | 61,55343        | 19,4            |

# Zestaw 102: poglądowy szkic sieci



## Zestaw 103: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2788,333 | 1429,915 |
| 2  | 2340,634 | 2573,496 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 12 | 667,797 | 0,036     |
| 1  | 11 | 686,019 | 0,035     |
| 12 | 2  | 807,793 | 0,038     |

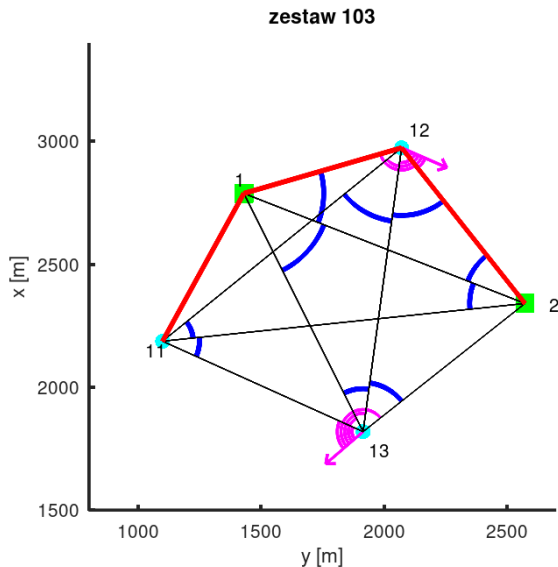
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 14,8       |
| 12 | 13 | 51,25812   | 13,9       |
| 12 | 11 | 99,37836   | 12,7       |
| 12 | 1  | 124,78025  | 19,1       |
| 12 | 2  | 0,00022    | 14,8       |
| 13 | 11 | 0,00000    | 16,4       |
| 13 | 1  | 43,47577   | 17,3       |
| 13 | 12 | 81,60000   | 13,9       |
| 13 | 2  | 130,38090  | 13,3       |
| 13 | 11 | 0,00015    | 16,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69725        | 14,5            |
| 2  | 11 | 13 | 33,58188        | 17,3            |
| 1  | 13 | 12 | 38,12417        | 17,6            |
| 12 | 13 | 2  | 48,78049        | 17,0            |
| 11 | 2  | 1  | 30,35938        | 16,4            |
| 1  | 2  | 12 | 33,56488        | 19,1            |
| 2  | 12 | 13 | 51,25824        | 14,2            |
| 13 | 12 | 11 | 48,12059        | 14,2            |
| 12 | 1  | 2  | 41,65506        | 15,1            |
| 2  | 1  | 13 | 46,69849        | 17,3            |

# Zestaw 103: poglądowy szkic sieci



## Zestaw 104: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1937,556 | 1593,462 |
| 2  | 3164,098 | 1655,162 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,410 | 0,060     |
| 12 | 2  | 807,798  | 0,043     |
| 2  | 11 | 1482,001 | 0,075     |

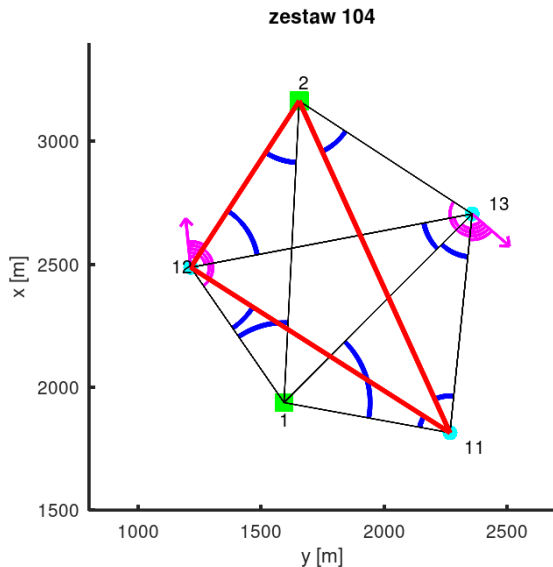
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,0       |
| 13 | 1  | 43,47623   | 17,3       |
| 13 | 12 | 81,60046   | 17,3       |
| 13 | 2  | 130,38059  | 17,9       |
| 13 | 11 | 399,99988  | 17,0       |
| 12 | 2  | 0,00000    | 13,9       |
| 12 | 13 | 51,25796   | 17,3       |
| 12 | 11 | 99,37858   | 15,1       |
| 12 | 1  | 124,78040  | 16,7       |
| 12 | 2  | 399,99969  | 13,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69102        | 16,0            |
| 2  | 11 | 13 | 33,58188        | 17,0            |
| 11 | 13 | 1  | 43,47623        | 12,7            |
| 1  | 13 | 12 | 38,12432        | 17,9            |
| 13 | 2  | 11 | 36,03728        | 10,5            |
| 1  | 2  | 12 | 33,56463        | 13,9            |
| 2  | 12 | 13 | 51,25784        | 16,7            |
| 11 | 12 | 1  | 25,40160        | 15,7            |
| 12 | 1  | 2  | 41,65472        | 18,5            |
| 13 | 1  | 11 | 61,55324        | 14,2            |

## Zestaw 104: poglądowy szkic sieci



## Zestaw 105: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2850,142 | 1499,455 |
| 2  | 2210,663 | 2547,921 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,697 | 0,045     |
| 12 | 13 | 1164,929 | 0,061     |
| 2  | 11 | 1481,999 | 0,073     |

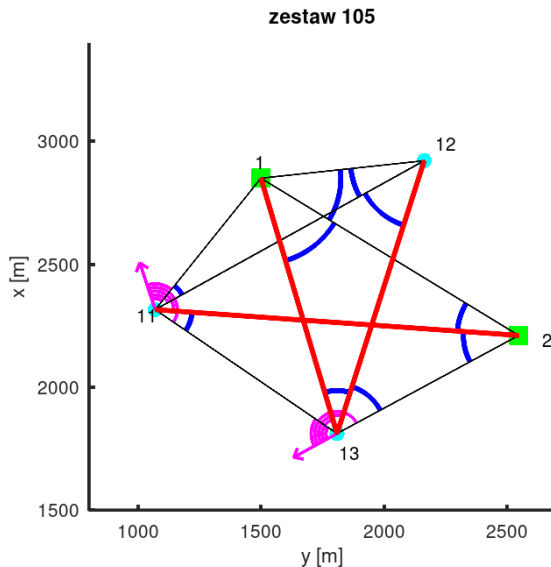
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69090   | 15,7       |
| 11 | 2  | 61,38812   | 13,0       |
| 11 | 13 | 94,97028   | 14,5       |
| 11 | 1  | 399,99994  | 17,9       |
| 13 | 11 | 0,00000    | 15,4       |
| 13 | 1  | 43,47599   | 15,7       |
| 13 | 12 | 81,60056   | 16,7       |
| 13 | 2  | 130,38052  | 17,6       |
| 13 | 11 | 0,00012    | 15,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69096        | 16,4            |
| 2  | 11 | 13 | 33,58207        | 15,7            |
| 1  | 13 | 12 | 38,12448        | 12,0            |
| 12 | 13 | 2  | 48,78025        | 16,4            |
| 13 | 2  | 11 | 36,03731        | 15,7            |
| 11 | 2  | 1  | 30,35948        | 14,2            |
| 13 | 12 | 11 | 48,12019        | 17,3            |
| 11 | 12 | 1  | 25,40182        | 16,4            |
| 12 | 1  | 2  | 41,65469        | 17,0            |
| 2  | 1  | 13 | 46,69846        | 13,6            |

# Zestaw 105: poglądowy szkic sieci



## Zestaw 106: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1903,098 | 1943,715 |
| 2  | 2901,409 | 1228,462 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,703 | 0,049     |
| 12 | 13 | 1164,913 | 0,065     |
| 11 | 13 | 894,807  | 0,045     |

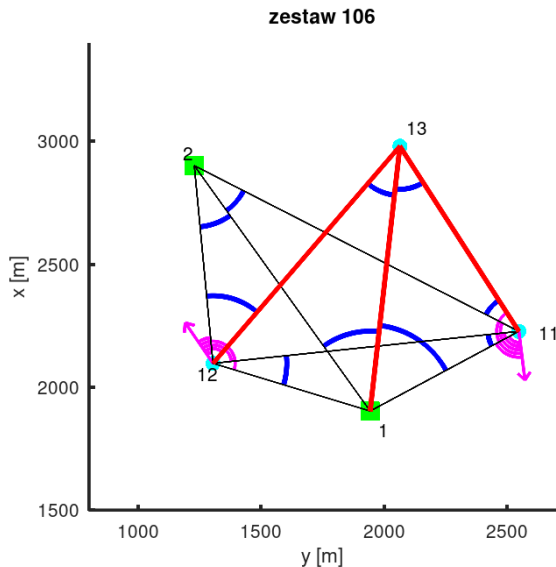
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 16,7       |
| 11 | 12 | 24,69071   | 18,5       |
| 11 | 2  | 61,38840   | 12,7       |
| 11 | 13 | 94,97022   | 13,3       |
| 11 | 1  | 0,00019    | 16,7       |
| 12 | 2  | 0,00000    | 16,0       |
| 12 | 13 | 51,25790   | 19,1       |
| 12 | 11 | 99,37818   | 16,7       |
| 12 | 1  | 124,78019  | 18,8       |
| 12 | 2  | 399,99975  | 16,0       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69083        | 19,4            |
| 2  | 11 | 13 | 33,58188        | 13,3            |
| 11 | 13 | 1  | 43,47627        | 13,3            |
| 1  | 13 | 12 | 38,12392        | 13,3            |
| 11 | 2  | 1  | 30,35969        | 13,3            |
| 1  | 2  | 12 | 33,56444        | 16,0            |
| 2  | 12 | 13 | 51,25815        | 18,5            |
| 11 | 12 | 1  | 25,40182        | 18,8            |
| 2  | 1  | 13 | 46,69836        | 14,5            |
| 13 | 1  | 11 | 61,55383        | 16,4            |

# Zestaw 106: poglądowy szkic sieci



## Zestaw 107: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2808,138 | 1449,629 |
| 2  | 2301,201 | 2568,212 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 12 | 667,796 | 0,034     |
| 2  | 13 | 839,838 | 0,045     |
| 11 | 13 | 894,794 | 0,052     |

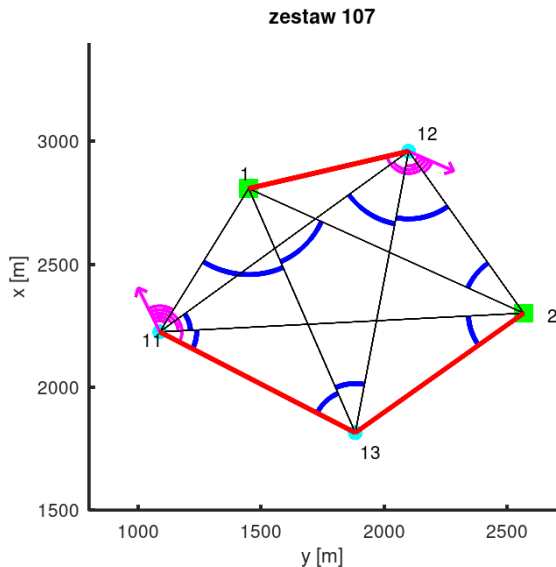
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 17,6       |
| 12 | 13 | 51,25836   | 14,5       |
| 12 | 11 | 99,37815   | 13,6       |
| 12 | 1  | 124,78049  | 17,0       |
| 12 | 2  | 399,99981  | 17,6       |
| 11 | 1  | 0,00000    | 14,2       |
| 11 | 12 | 24,69105   | 18,8       |
| 11 | 2  | 61,38852   | 16,7       |
| 11 | 13 | 94,97015   | 13,6       |
| 11 | 1  | 399,99981  | 14,2       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69744        | 14,2            |
| 2  | 11 | 13 | 33,58201        | 13,9            |
| 11 | 13 | 1  | 43,47580        | 15,1            |
| 1  | 13 | 12 | 38,12423        | 12,3            |
| 13 | 2  | 11 | 36,03704        | 13,3            |
| 1  | 2  | 12 | 33,56472        | 17,6            |
| 2  | 12 | 13 | 51,25836        | 17,3            |
| 13 | 12 | 11 | 48,12025        | 14,2            |
| 2  | 1  | 13 | 46,69846        | 15,7            |
| 13 | 1  | 11 | 61,55324        | 17,3            |

# Zestaw 107: poglądowy szkic sieci



## Zestaw 108: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2120,503 | 2258,493 |
| 2  | 2383,795 | 1058,955 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 11 | 1250,403 | 0,058     |
| 12 | 2  | 807,803  | 0,039     |
| 2  | 11 | 1482,011 | 0,066     |

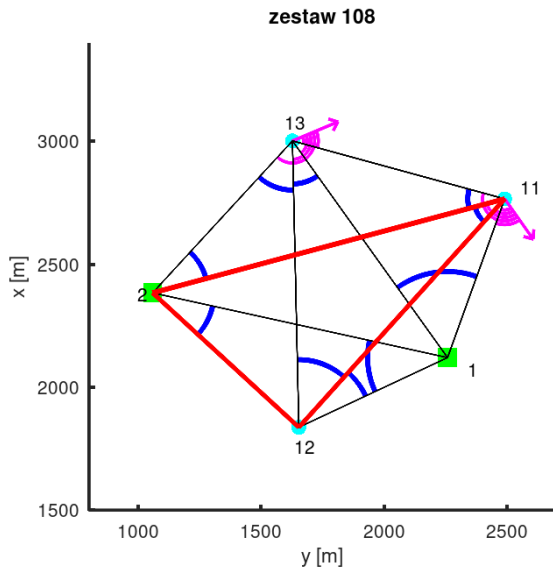
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 15,4       |
| 11 | 12 | 24,69083   | 15,7       |
| 11 | 2  | 61,38849   | 17,9       |
| 11 | 13 | 94,97049   | 16,7       |
| 11 | 1  | 399,99972  | 15,4       |
| 13 | 11 | 0,00000    | 16,4       |
| 13 | 1  | 43,47611   | 18,8       |
| 13 | 12 | 81,60056   | 14,5       |
| 13 | 2  | 130,38052  | 14,5       |
| 13 | 11 | 0,00028    | 16,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69750        | 15,4            |
| 2  | 11 | 13 | 33,58222        | 16,4            |
| 1  | 13 | 12 | 38,12438        | 13,6            |
| 12 | 13 | 2  | 48,78062        | 15,4            |
| 13 | 2  | 11 | 36,03744        | 15,1            |
| 1  | 2  | 12 | 33,56485        | 14,5            |
| 13 | 12 | 11 | 48,12019        | 16,0            |
| 11 | 12 | 1  | 25,40179        | 17,3            |
| 12 | 1  | 2  | 41,65472        | 19,1            |
| 13 | 1  | 11 | 61,55336        | 15,4            |

# Zestaw 108: poglądowy szkic sieci



## Zestaw 109: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1949,967 | 1568,425 |
| 2  | 3171,599 | 1694,233 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 12 | 2  | 807,791 | 0,043     |
| 2  | 13 | 839,837 | 0,037     |
| 11 | 13 | 894,791 | 0,051     |

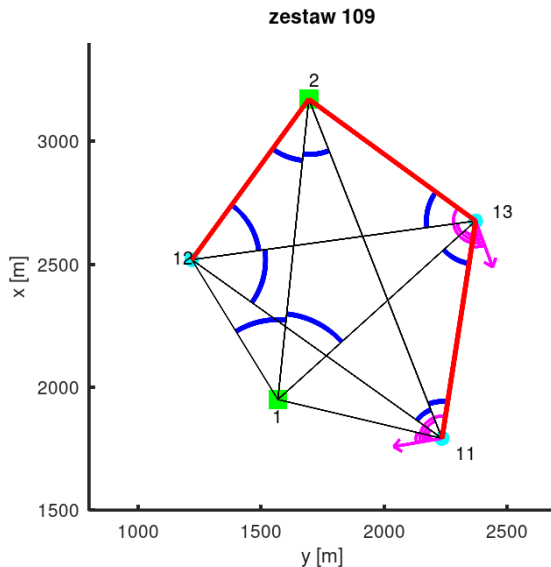
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 14,8       |
| 13 | 1  | 43,47623   | 18,5       |
| 13 | 12 | 81,60037   | 14,5       |
| 13 | 2  | 130,38059  | 14,2       |
| 13 | 11 | 0,00015    | 14,8       |
| 11 | 1  | 0,00000    | 13,9       |
| 11 | 12 | 24,69083   | 14,5       |
| 11 | 2  | 61,38815   | 12,3       |
| 11 | 13 | 94,97043   | 16,7       |
| 11 | 1  | 399,99972  | 13,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69704        | 16,0            |
| 2  | 11 | 13 | 33,58201        | 16,0            |
| 11 | 13 | 1  | 43,47633        | 16,0            |
| 12 | 13 | 2  | 48,78062        | 13,0            |
| 11 | 2  | 1  | 30,35938        | 15,4            |
| 1  | 2  | 12 | 33,56441        | 17,0            |
| 2  | 12 | 13 | 51,25812        | 17,0            |
| 13 | 12 | 11 | 48,12019        | 17,6            |
| 12 | 1  | 2  | 41,65500        | 18,5            |
| 2  | 1  | 13 | 46,69892        | 15,7            |

## Zestaw 109: poglądowy szkic sieci



## Zestaw 110: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2886,966 | 2079,689 |
| 2  | 1669,046 | 1921,946 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,693 | 0,047     |
| 12 | 2  | 807,787  | 0,038     |
| 11 | 13 | 894,804  | 0,050     |

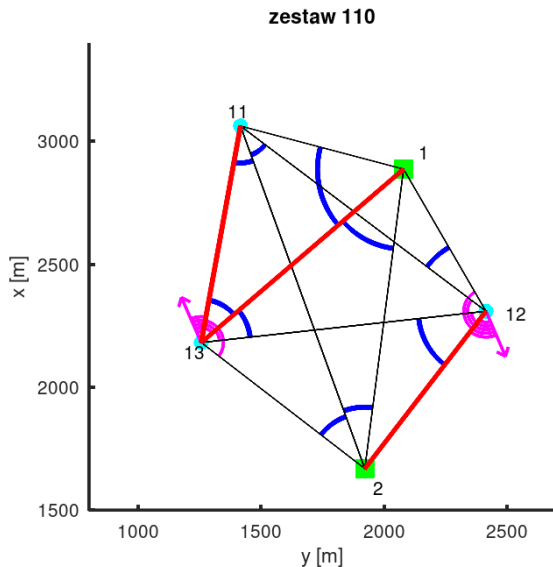
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 15,7       |
| 12 | 13 | 51,25809   | 17,6       |
| 12 | 11 | 99,37821   | 16,4       |
| 12 | 1  | 124,78009  | 16,7       |
| 12 | 2  | 399,99972  | 15,7       |
| 13 | 11 | 0,00000    | 14,8       |
| 13 | 1  | 43,47577   | 17,3       |
| 13 | 12 | 81,60046   | 17,0       |
| 13 | 2  | 130,38065  | 16,0       |
| 13 | 11 | 399,99997  | 14,8       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69738        | 12,3            |
| 2  | 11 | 13 | 33,58185        | 17,3            |
| 11 | 13 | 1  | 43,47602        | 14,5            |
| 1  | 13 | 12 | 38,12432        | 14,8            |
| 13 | 2  | 11 | 36,03694        | 13,3            |
| 11 | 2  | 1  | 30,35935        | 14,8            |
| 2  | 12 | 13 | 51,25833        | 15,7            |
| 11 | 12 | 1  | 25,40160        | 15,1            |
| 2  | 1  | 13 | 46,69892        | 13,3            |
| 13 | 1  | 11 | 61,55370        | 19,4            |

# Zestaw 110: poglądowy szkic sieci



## Zestaw 111: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2851,598 | 2134,426 |
| 2  | 1661,980 | 1829,431 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,693 | 0,045     |
| 12 | 11 | 1250,410 | 0,066     |
| 12 | 2  | 807,801  | 0,041     |

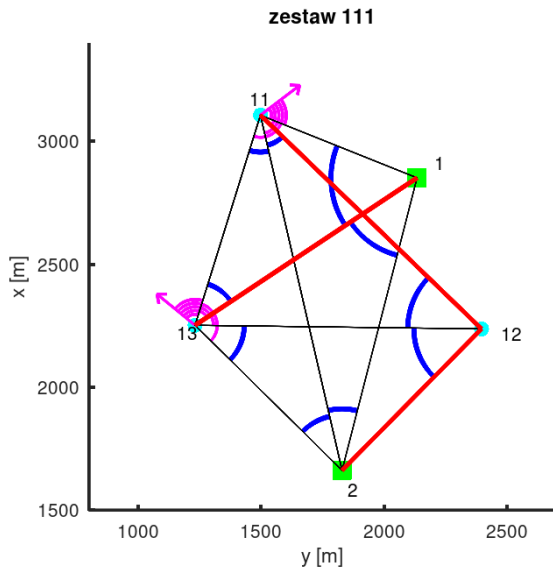
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 17,3       |
| 13 | 1  | 43,47627   | 13,9       |
| 13 | 12 | 81,60003   | 13,3       |
| 13 | 2  | 130,38040  | 14,5       |
| 13 | 11 | 0,00028    | 17,3       |
| 11 | 1  | 0,00000    | 17,9       |
| 11 | 12 | 24,69114   | 15,4       |
| 11 | 2  | 61,38836   | 16,4       |
| 11 | 13 | 94,97043   | 15,4       |
| 11 | 1  | 0,00028    | 17,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69722        | 12,7            |
| 2  | 11 | 13 | 33,58235        | 15,7            |
| 11 | 13 | 1  | 43,47617        | 11,7            |
| 12 | 13 | 2  | 48,78015        | 14,5            |
| 13 | 2  | 11 | 36,03713        | 11,1            |
| 11 | 2  | 1  | 30,35951        | 14,8            |
| 2  | 12 | 13 | 51,25818        | 15,7            |
| 13 | 12 | 11 | 48,12059        | 13,6            |
| 2  | 1  | 13 | 46,69864        | 13,9            |
| 13 | 1  | 11 | 61,55367        | 15,4            |

# Zestaw 111: poglądowy szkic sieci



## Zestaw 112: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2182,561 | 1340,801 |
| 2  | 3104,053 | 2152,628 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,807  | 0,037     |
| 1  | 13 | 1083,686 | 0,049     |
| 12 | 13 | 1164,922 | 0,068     |

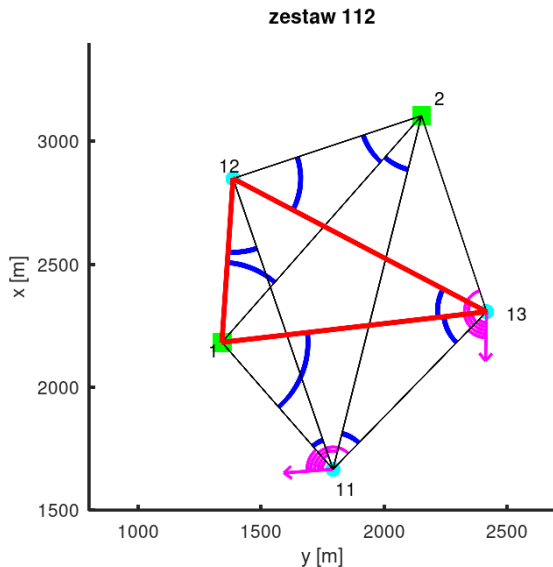
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69090   | 15,7       |
| 11 | 2  | 61,38843   | 14,8       |
| 11 | 13 | 94,97046   | 17,3       |
| 11 | 1  | 399,99997  | 14,5       |
| 13 | 11 | 0,00000    | 17,6       |
| 13 | 1  | 43,47633   | 14,5       |
| 13 | 12 | 81,60028   | 13,3       |
| 13 | 2  | 130,38046  | 15,7       |
| 13 | 11 | 0,00028    | 17,6       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69086        | 17,6            |
| 2  | 11 | 13 | 33,58231        | 13,6            |
| 11 | 13 | 1  | 43,47633        | 16,0            |
| 1  | 13 | 12 | 38,12441        | 17,0            |
| 11 | 2  | 1  | 30,35972        | 13,3            |
| 1  | 2  | 12 | 33,56491        | 18,8            |
| 2  | 12 | 13 | 51,25787        | 16,7            |
| 11 | 12 | 1  | 25,40176        | 14,5            |
| 12 | 1  | 2  | 41,65481        | 16,7            |
| 13 | 1  | 11 | 61,55377        | 14,8            |

# Zestaw 112: poglądowy szkic sieci



## Zestaw 113: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2868,785 | 1526,198 |
| 2  | 2166,492 | 2533,669 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 2  | 11 | 1481,999 | 0,067     |
| 2  | 13 | 839,841  | 0,036     |
| 11 | 13 | 894,805  | 0,046     |

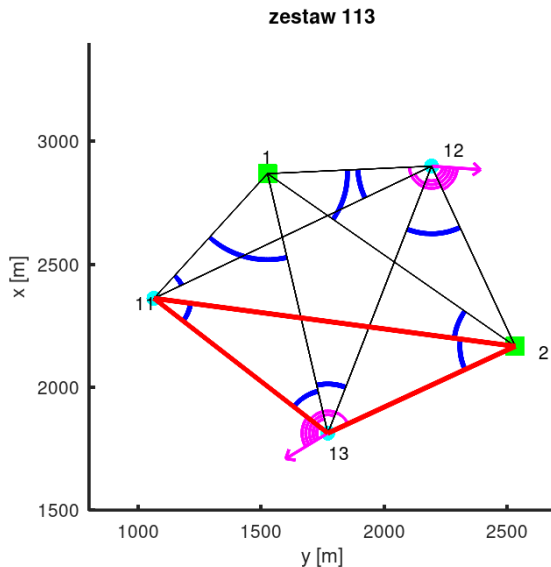
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,0       |
| 13 | 1  | 43,47611   | 18,2       |
| 13 | 12 | 81,60012   | 12,7       |
| 13 | 2  | 130,38086  | 17,6       |
| 13 | 11 | 0,00003    | 16,0       |
| 12 | 2  | 0,00000    | 16,4       |
| 12 | 13 | 51,25827   | 13,9       |
| 12 | 11 | 99,37858   | 17,3       |
| 12 | 1  | 124,78043  | 17,0       |
| 12 | 2  | 0,00022    | 16,4       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69130        | 18,2            |
| 2  | 11 | 13 | 33,58219        | 16,7            |
| 11 | 13 | 1  | 43,47633        | 14,5            |
| 1  | 13 | 12 | 38,12404        | 13,9            |
| 13 | 2  | 11 | 36,03704        | 12,0            |
| 11 | 2  | 1  | 30,35972        | 15,1            |
| 2  | 12 | 13 | 51,25793        | 18,2            |
| 11 | 12 | 1  | 25,40204        | 15,7            |
| 12 | 1  | 2  | 41,65488        | 14,2            |
| 13 | 1  | 11 | 61,55367        | 19,1            |

# Zestaw 113: poglądowy szkic sieci



## Zestaw 114: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2711,486 | 1369,619 |
| 2  | 2479,685 | 2575,638 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 12 | 13 | 1164,915 | 0,066     |
| 2  | 11 | 1482,011 | 0,069     |
| 11 | 13 | 894,791  | 0,048     |

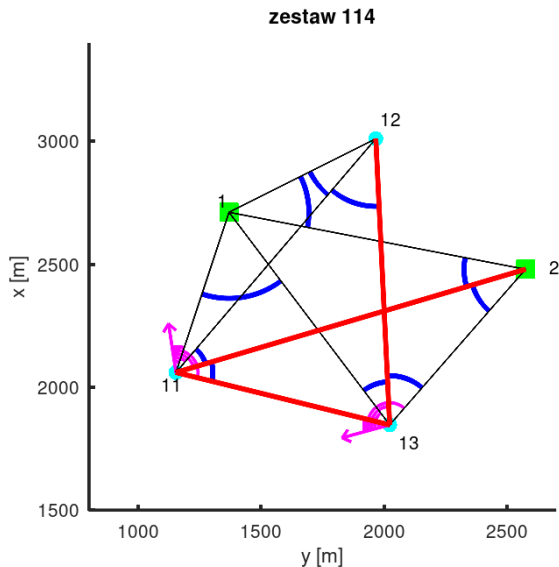
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 19,4       |
| 13 | 1  | 43,47623   | 17,9       |
| 13 | 12 | 81,60046   | 17,3       |
| 13 | 2  | 130,38074  | 17,6       |
| 13 | 11 | 399,99991  | 19,4       |
| 11 | 1  | 0,00000    | 17,3       |
| 11 | 12 | 24,69105   | 16,4       |
| 11 | 2  | 61,38815   | 14,5       |
| 11 | 13 | 94,97052   | 18,8       |
| 11 | 1  | 0,00025    | 17,3       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69738        | 13,3            |
| 2  | 11 | 13 | 33,58201        | 18,5            |
| 1  | 13 | 12 | 38,12423        | 13,3            |
| 12 | 13 | 2  | 48,78065        | 13,9            |
| 13 | 2  | 11 | 36,03704        | 13,9            |
| 11 | 2  | 1  | 30,35929        | 13,0            |
| 13 | 12 | 11 | 48,12012        | 13,3            |
| 11 | 12 | 1  | 25,40182        | 15,7            |
| 12 | 1  | 2  | 41,65512        | 16,4            |
| 13 | 1  | 11 | 61,55355        | 17,0            |

# Zestaw 114: poglądowy szkic sieci



## Zestaw 115: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1936,630 | 2040,379 |
| 2  | 2780,123 | 1147,780 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 13 | 1083,692 | 0,045     |
| 12 | 2  | 807,786  | 0,039     |
| 11 | 13 | 894,798  | 0,052     |

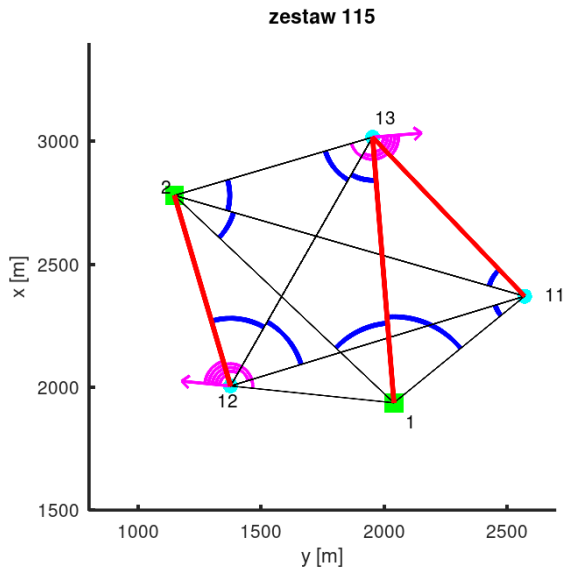
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 14,8       |
| 12 | 13 | 51,25830   | 17,6       |
| 12 | 11 | 99,37827   | 13,6       |
| 12 | 1  | 124,78028  | 16,4       |
| 12 | 2  | 0,00028    | 14,8       |
| 13 | 11 | 0,00000    | 14,8       |
| 13 | 1  | 43,47614   | 16,4       |
| 13 | 12 | 81,60028   | 13,6       |
| 13 | 2  | 130,38096  | 14,5       |
| 13 | 11 | 399,99981  | 14,8       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69108        | 14,8            |
| 2  | 11 | 13 | 33,58194        | 14,5            |
| 1  | 13 | 12 | 38,12404        | 12,7            |
| 12 | 13 | 2  | 48,78052        | 13,9            |
| 13 | 2  | 11 | 36,03750        | 13,0            |
| 11 | 2  | 1  | 30,35920        | 17,3            |
| 2  | 12 | 13 | 51,25818        | 18,8            |
| 13 | 12 | 11 | 48,12034        | 14,2            |
| 2  | 1  | 13 | 46,69849        | 14,2            |
| 13 | 1  | 11 | 61,55358        | 13,9            |

# Zestaw 115: poglądowy szkic sieci



## Zestaw 116: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2592,334 | 2323,702 |
| 2  | 1792,794 | 1391,528 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,799  | 0,038     |
| 12 | 11 | 1250,418 | 0,066     |
| 12 | 2  | 807,793  | 0,041     |

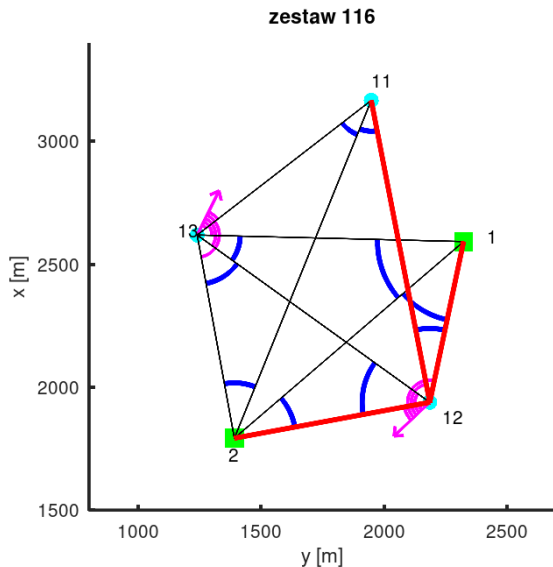
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 15,1       |
| 13 | 1  | 43,47590   | 19,1       |
| 13 | 12 | 81,60025   | 15,1       |
| 13 | 2  | 130,38099  | 19,1       |
| 13 | 11 | 399,99985  | 15,1       |
| 12 | 2  | 0,00000    | 14,2       |
| 12 | 13 | 51,25843   | 13,6       |
| 12 | 11 | 99,37827   | 17,0       |
| 12 | 1  | 124,78009  | 16,0       |
| 12 | 2  | 399,99972  | 14,2       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69756        | 13,0            |
| 2  | 11 | 13 | 33,58210        | 14,5            |
| 1  | 13 | 12 | 38,12426        | 12,0            |
| 12 | 13 | 2  | 48,78022        | 14,5            |
| 13 | 2  | 11 | 36,03707        | 14,5            |
| 1  | 2  | 12 | 33,56497        | 17,9            |
| 2  | 12 | 13 | 51,25821        | 13,9            |
| 11 | 12 | 1  | 25,40207        | 15,7            |
| 12 | 1  | 2  | 41,65460        | 19,1            |
| 2  | 1  | 13 | 46,69852        | 17,0            |

# Zestaw 116: poglądowy szkic sieci



## Zestaw 117: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1888,074 | 1814,490 |
| 2  | 3029,767 | 1361,996 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,796  | 0,039     |
| 1  | 11 | 686,018  | 0,040     |
| 12 | 13 | 1164,915 | 0,063     |

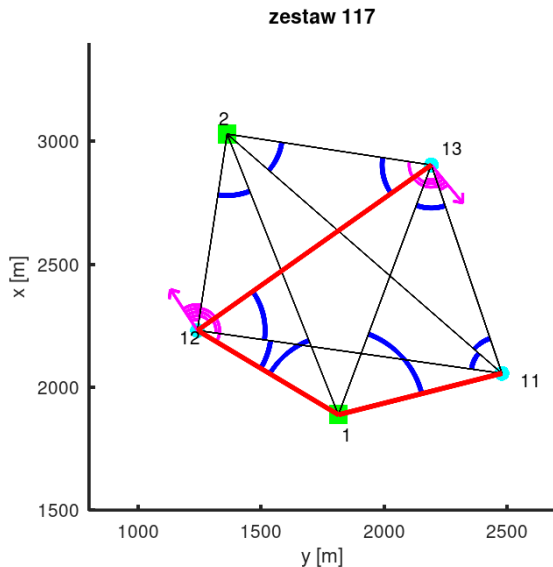
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 16,4       |
| 13 | 1  | 43,47630   | 13,9       |
| 13 | 12 | 81,60037   | 15,1       |
| 13 | 2  | 130,38083  | 13,3       |
| 13 | 11 | 0,00003    | 16,4       |
| 12 | 2  | 0,00000    | 19,1       |
| 12 | 13 | 51,25787   | 14,8       |
| 12 | 11 | 99,37843   | 18,2       |
| 12 | 1  | 124,78031  | 16,4       |
| 12 | 2  | 0,00003    | 19,1       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69704        | 17,0            |
| 2  | 11 | 13 | 33,58207        | 15,4            |
| 11 | 13 | 1  | 43,47611        | 14,8            |
| 12 | 13 | 2  | 48,78037        | 15,4            |
| 13 | 2  | 11 | 36,03728        | 15,4            |
| 1  | 2  | 12 | 33,56500        | 17,6            |
| 13 | 12 | 11 | 48,12012        | 17,3            |
| 11 | 12 | 1  | 25,40167        | 14,2            |
| 12 | 1  | 2  | 41,65466        | 16,0            |
| 13 | 1  | 11 | 61,55343        | 18,8            |

# Zestaw 117: poglądowy szkic sieci



## Zestaw 118: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2050,160 | 1434,828 |
| 2  | 3173,125 | 1931,984 |

### Obserwacje odległości

| p  | k  | $d$ [m] | $m_d$ [m] |
|----|----|---------|-----------|
| 1  | 12 | 667,802 | 0,034     |
| 12 | 2  | 807,790 | 0,037     |
| 2  | 13 | 839,841 | 0,043     |

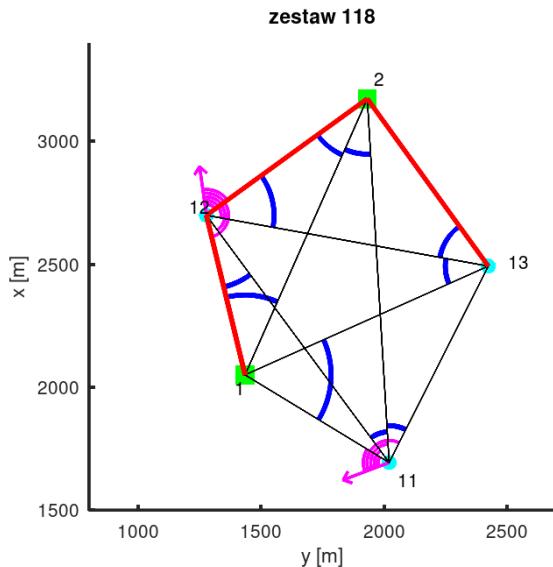
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 11 | 1  | 0,00000    | 17,3       |
| 11 | 12 | 24,69105   | 18,2       |
| 11 | 2  | 61,38840   | 17,6       |
| 11 | 13 | 94,97015   | 19,1       |
| 11 | 1  | 0,00006    | 17,3       |
| 12 | 2  | 0,00000    | 17,9       |
| 12 | 13 | 51,25818   | 19,1       |
| 12 | 11 | 99,37815   | 13,6       |
| 12 | 1  | 124,78031  | 16,0       |
| 12 | 2  | 399,99997  | 17,9       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69725        | 15,1            |
| 2  | 11 | 13 | 33,58207        | 17,6            |
| 1  | 13 | 12 | 38,12410        | 12,0            |
| 12 | 13 | 2  | 48,78012        | 14,8            |
| 11 | 2  | 1  | 30,35938        | 17,0            |
| 1  | 2  | 12 | 33,56485        | 19,1            |
| 2  | 12 | 13 | 51,25840        | 17,9            |
| 11 | 12 | 1  | 25,40182        | 16,4            |
| 12 | 1  | 2  | 41,65472        | 17,6            |
| 13 | 1  | 11 | 61,55330        | 13,9            |

# Zestaw 118: poglądowy szkic sieci



## Zestaw 119: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 1923,955 | 2010,345 |
| 2  | 2820,366 | 1170,905 |

### Obserwacje odległości

| p | k  | $d$ [m]  | $m_d$ [m] |
|---|----|----------|-----------|
| 1 | 13 | 1083,688 | 0,050     |
| 2 | 11 | 1481,998 | 0,071     |
| 2 | 13 | 839,834  | 0,042     |

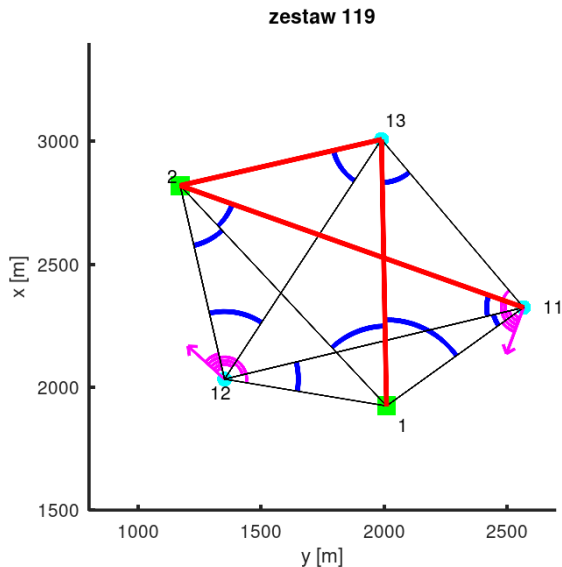
### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 12 | 2  | 0,00000    | 18,2       |
| 12 | 13 | 51,25793   | 13,9       |
| 12 | 11 | 99,37873   | 14,5       |
| 12 | 1  | 124,78046  | 16,7       |
| 12 | 2  | 399,99978  | 18,2       |
| 11 | 1  | 0,00000    | 16,7       |
| 11 | 12 | 24,69105   | 18,8       |
| 11 | 2  | 61,38861   | 17,6       |
| 11 | 13 | 94,97012   | 18,5       |
| 11 | 1  | 0,00025    | 16,7       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 1  | 11 | 12 | 24,69093        | 18,5            |
| 12 | 11 | 2  | 36,69728        | 17,3            |
| 11 | 13 | 1  | 43,47599        | 13,6            |
| 12 | 13 | 2  | 48,78043        | 17,3            |
| 11 | 2  | 1  | 30,35957        | 17,0            |
| 1  | 2  | 12 | 33,56481        | 18,8            |
| 2  | 12 | 13 | 51,25827        | 15,1            |
| 11 | 12 | 1  | 25,40157        | 15,7            |
| 2  | 1  | 13 | 46,69889        | 13,9            |
| 13 | 1  | 11 | 61,55361        | 15,4            |

# Zestaw 119: poglądowy szkic sieci



## Zestaw 120: dane

### Współrzędne osnowy

| nr | X[m]     | Y[m]     |
|----|----------|----------|
| 1  | 2337,108 | 1290,939 |
| 2  | 2971,830 | 2342,291 |

### Obserwacje odległości

| p  | k  | $d$ [m]  | $m_d$ [m] |
|----|----|----------|-----------|
| 1  | 12 | 667,797  | 0,034     |
| 12 | 2  | 807,792  | 0,040     |
| 2  | 11 | 1481,995 | 0,069     |

### Obserwacje kierunków

| p  | k  | $K$ [grad] | $m_K$ [cc] |
|----|----|------------|------------|
| 13 | 11 | 0,00000    | 18,5       |
| 13 | 1  | 43,47577   | 14,5       |
| 13 | 12 | 81,60046   | 13,9       |
| 13 | 2  | 130,38096  | 15,7       |
| 13 | 11 | 399,99991  | 18,5       |
| 11 | 1  | 0,00000    | 14,5       |
| 11 | 12 | 24,69099   | 16,4       |
| 11 | 2  | 61,38840   | 13,0       |
| 11 | 13 | 94,97028   | 14,2       |
| 11 | 1  | 399,99994  | 14,5       |

### Obserwacje kątów

| l  | c  | p  | $\alpha$ [grad] | $m_\alpha$ [cc] |
|----|----|----|-----------------|-----------------|
| 12 | 11 | 2  | 36,69719        | 13,6            |
| 2  | 11 | 13 | 33,58225        | 18,2            |
| 11 | 13 | 1  | 43,47583        | 12,0            |
| 12 | 13 | 2  | 48,78043        | 13,0            |
| 11 | 2  | 1  | 30,35938        | 15,7            |
| 1  | 2  | 12 | 33,56500        | 16,7            |
| 13 | 12 | 11 | 48,12022        | 14,2            |
| 11 | 12 | 1  | 25,40204        | 15,4            |
| 2  | 1  | 13 | 46,69843        | 16,0            |
| 13 | 1  | 11 | 61,55361        | 15,7            |

## Zestaw 120: poglądowy szkic sieci

