



Aufgaben

1. Vervollständige die Tabelle.

| | | | | | | | | |
|------------------|---|---|---|----|----|-----|----|---|
| arabische Ziffer | | | | | | | 50 | |
| römische Ziffer | I | V | X | XV | XX | XXV | L | C |

2. Setze die Zeichen für größer (>), kleiner (<) oder gleich (=) ein.

a) XII 8 b) X 15 c) IV 11 d) XIII 11

e) XVII 17 f) IX 15 g) XVI 10 h) XXI 21

3. Wandle in römische Zahlzeichen um.

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 10 | 50 | 23 | 37 | 62 | 71 | 84 | 91 | 55 | 46 |
| | | | | | | | | | |

4. Entscheide, welche Zahl die größere ist. Setze dazu die Zeichen < und > ein.

a) LII XII

b) XXXVIII XLI

c) VI IV

d) LI XXVIII

e) CL CXL

f) CXC CLI



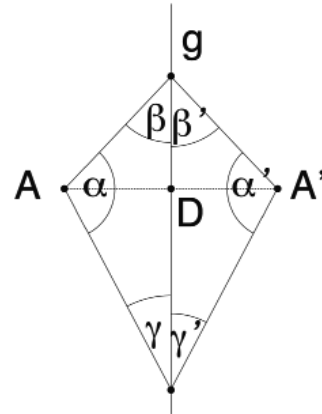
Lehrerinformation

Achsensymmetrie

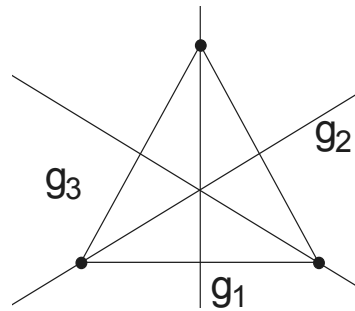
Eine ebene Figur bezeichnet man als achsensymmetrisch, wenn es eine Gerade g (die Spiegelachse) gibt, bei der die Figur durch Spiegelung oder durch Umklappen auf sich abgebildet wird:

Eigenschaften:

- Die Punkte A und A' sind von der Spiegelachse gleich weit entfernt. Also: $\overline{AD} = \overline{A'D}$
- Die symmetrischen Winkel sind alle gleich groß. Also: $\alpha = \alpha'$ $\beta = \beta'$ $\gamma = \gamma'$



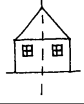
Manche Figuren haben auch mehrere Symmetrieachsen:



Materialaufstellung

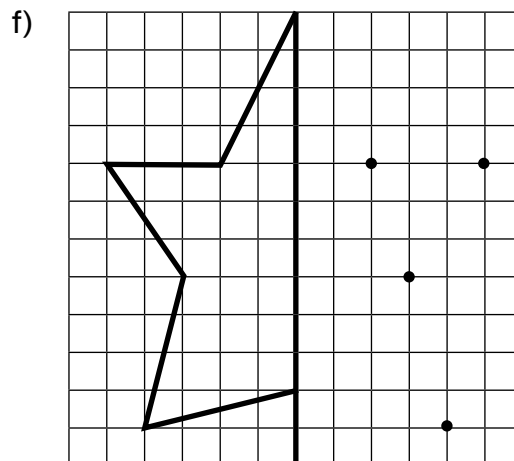
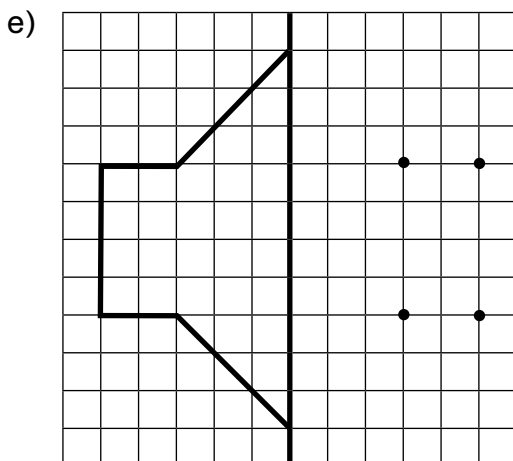
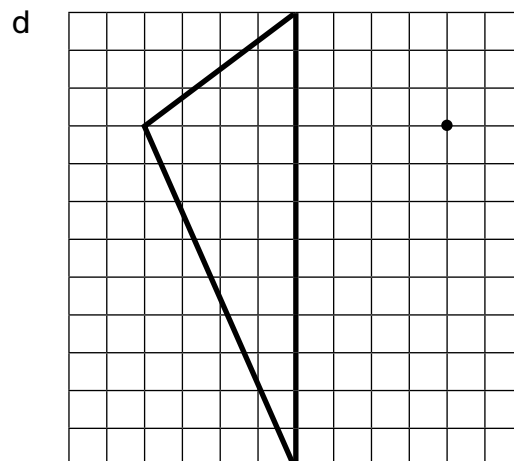
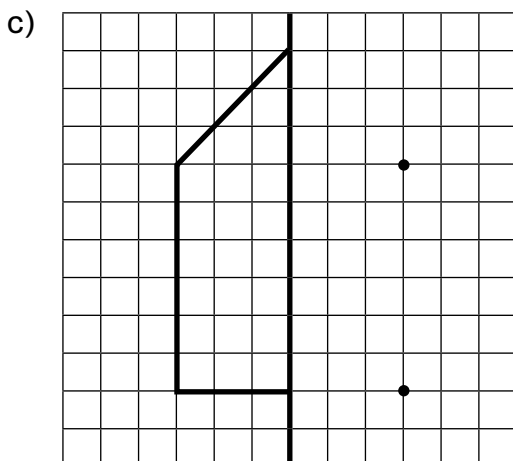
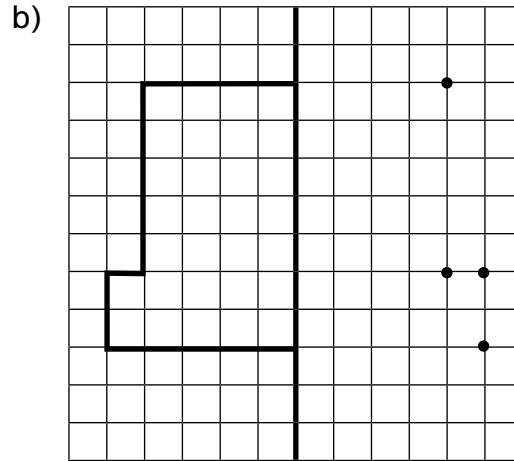
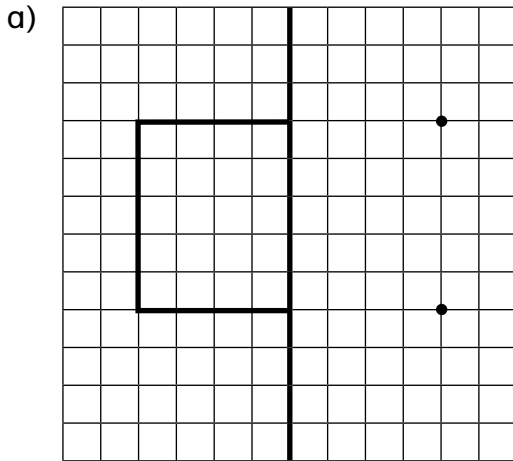
Die Seiten 20–24 sind in entsprechender Anzahl zu vervielfältigen und den Schülern bereitzulegen. Als Möglichkeit zur Selbstkontrolle können Lösungsseiten erstellt werden.

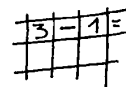
- | | |
|------------------|--|
| Station 1, S. 20 | Symmetrien erkennen Eventuell Spiegel bereitlegen. |
| Station 2, S. 21 | Falten und schneiden 10 cm x 10 cm große Blätter und Schere bereitlegen. |
| Station 3, S. 22 | Figuren symmetrisch ergänzen Lineal und eventuell Spiegel bereitlegen. |
| Station 4, S. 23 | Symmetrieachsen einzeichnen Lineal bereitlegen. |
| Station 5, S. 24 | Figuren symmetrisch einfärben Lineal und Buntstifte bereitlegen. |



Aufgaben

1. Ergänze spiegelbildlich.





Aufgaben

Der Fehlerteufel hat hier ordentlich gekleckert.
Einige Ziffern sind verschwunden.
Trage die fehlenden Ziffern ein.

| | | | | | | | | | | | | | | | | |
|----|---|---|---|---|--|----|---|---|---|---|--|----|---|---|---|---|
| a) | | | | | | b) | | | | | | c) | | | | |
| | | 9 | 0 | 0 | | | | | 6 | 0 | | | | 9 | 9 | 9 |
| | - | 2 | | 0 | | | - | 1 | 6 | 0 | | | - | 5 | 0 | |
| | | | 0 | 0 | | | | 3 | | 0 | | | | | 9 | 9 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| d) | | | | | | e) | | | | | | f) | | | | |
| | | | 5 | 0 | | | | 7 | 0 | 0 | | | | 4 | 8 | 0 |
| | - | 1 | | 0 | | | - | 1 | 5 | | | | - | | 7 | |
| | | 5 | 5 | 0 | | | | | 5 | 0 | | | | 4 | 1 | 0 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| g) | | | | | | h) | | | | | | i) | | | | |
| | | | 3 | 7 | | | | 6 | 5 | 8 | | | | 3 | | 9 |
| | - | 4 | | 2 | | | - | | | 0 | | | - | 2 | 3 | 6 |
| | | 4 | 3 | | | | | | 0 | | | | | | 2 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

a)

| | | | | | | | | | |
|---|----|----|-------------|--|---|---|----|-------------|--|
| <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">3</td><td style="width: 50%;">15</td></tr> <tr><td colspan="2">3 + 15 = 18</td></tr> </table> | 3 | 15 | 3 + 15 = 18 | | <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">8</td><td style="width: 50%;">10</td></tr> <tr><td colspan="2">18 - 8 = 10</td></tr> </table> | 8 | 10 | 18 - 8 = 10 | |
| 3 | 15 | | | | | | | | |
| 3 + 15 = 18 | | | | | | | | | |
| 8 | 10 | | | | | | | | |
| 18 - 8 = 10 | | | | | | | | | |

b)

| | | | | | | | | | |
|---|----|----|--------------|--|---|----|----|--------------|--|
| <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">25</td><td style="width: 50%;">40</td></tr> <tr><td colspan="2">25 + 40 = 65</td></tr> </table> | 25 | 40 | 25 + 40 = 65 | | <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">15</td><td style="width: 50%;">50</td></tr> <tr><td colspan="2">65 - 15 = 50</td></tr> </table> | 15 | 50 | 65 - 15 = 50 | |
| 25 | 40 | | | | | | | | |
| 25 + 40 = 65 | | | | | | | | | |
| 15 | 50 | | | | | | | | |
| 65 - 15 = 50 | | | | | | | | | |

c)

| | | | | | | | | | |
|---|----|----|--------------|--|---|----|----|--------------|--|
| <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">32</td><td style="width: 50%;">17</td></tr> <tr><td colspan="2">49 - 17 = 32</td></tr> </table> | 32 | 17 | 49 - 17 = 32 | | <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">30</td><td style="width: 50%;">19</td></tr> <tr><td colspan="2">30 + 19 = 49</td></tr> </table> | 30 | 19 | 30 + 19 = 49 | |
| 32 | 17 | | | | | | | | |
| 49 - 17 = 32 | | | | | | | | | |
| 30 | 19 | | | | | | | | |
| 30 + 19 = 49 | | | | | | | | | |

d)

| | | | | | | | | | |
|---|----|----|--------------|--|---|----|----|--------------|--|
| <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">56</td><td style="width: 50%;">41</td></tr> <tr><td colspan="2">97 - 56 = 41</td></tr> </table> | 56 | 41 | 97 - 56 = 41 | | <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">69</td><td style="width: 50%;">28</td></tr> <tr><td colspan="2">69 + 28 = 97</td></tr> </table> | 69 | 28 | 69 + 28 = 97 | |
| 56 | 41 | | | | | | | | |
| 97 - 56 = 41 | | | | | | | | | |
| 69 | 28 | | | | | | | | |
| 69 + 28 = 97 | | | | | | | | | |

e)

| | | | | | | | | | |
|--|-----|-----|-----------------|--|--|-----|-----|-----------------|--|
| <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">256</td><td style="width: 50%;">138</td></tr> <tr><td colspan="2">256 + 138 = 394</td></tr> </table> | 256 | 138 | 256 + 138 = 394 | | <table border="1" style="width: 100%;"> <tr><td style="width: 50%;">143</td><td style="width: 50%;">251</td></tr> <tr><td colspan="2">394 - 143 = 251</td></tr> </table> | 143 | 251 | 394 - 143 = 251 | |
| 256 | 138 | | | | | | | | |
| 256 + 138 = 394 | | | | | | | | | |
| 143 | 251 | | | | | | | | |
| 394 - 143 = 251 | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|---|---|---|---|---|---|---|--|--|--|---|--|---|---|---|---|---|---|---|---|--|--|--|---|--|---|---|---|---|---|---|---|---|--|--|--|
| a) | b) | c) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%;"> <tr><td> </td><td>9</td><td>0</td><td>0</td></tr> <tr><td>-</td><td>2</td><td>0</td><td>0</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">7</td></tr> </table> | | 9 | 0 | 0 | - | 2 | 0 | 0 | 7 | | | | <table border="1" style="width: 100%;"> <tr><td> </td><td>4</td><td>6</td><td>0</td></tr> <tr><td>-</td><td>1</td><td>6</td><td>0</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">3</td></tr> </table> | | 4 | 6 | 0 | - | 1 | 6 | 0 | 3 | | | | <table border="1" style="width: 100%;"> <tr><td> </td><td>9</td><td>9</td><td>9</td></tr> <tr><td>-</td><td>5</td><td>0</td><td>0</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">4</td></tr> </table> | | 9 | 9 | 9 | - | 5 | 0 | 0 | 4 | | | |
| | 9 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 2 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4 | 6 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 1 | 6 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 9 | 9 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 5 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d) | e) | f) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%;"> <tr><td> </td><td>6</td><td>5</td><td>0</td></tr> <tr><td>-</td><td>1</td><td>0</td><td>0</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">5</td></tr> </table> | | 6 | 5 | 0 | - | 1 | 0 | 0 | 5 | | | | <table border="1" style="width: 100%;"> <tr><td> </td><td>7</td><td>0</td><td>0</td></tr> <tr><td>-</td><td>1</td><td>5</td><td>0</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">5</td></tr> </table> | | 7 | 0 | 0 | - | 1 | 5 | 0 | 5 | | | | <table border="1" style="width: 100%;"> <tr><td> </td><td>4</td><td>8</td><td>0</td></tr> <tr><td>-</td><td>0</td><td>7</td><td>0</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">4</td></tr> </table> | | 4 | 8 | 0 | - | 0 | 7 | 0 | 4 | | | |
| | 6 | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 1 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 7 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 1 | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4 | 8 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 0 | 7 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| g) | h) | i) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%;"> <tr><td> </td><td>8</td><td>3</td><td>7</td></tr> <tr><td>-</td><td>4</td><td>0</td><td>2</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">4</td></tr> </table> | | 8 | 3 | 7 | - | 4 | 0 | 2 | 4 | | | | <table border="1" style="width: 100%;"> <tr><td> </td><td>6</td><td>5</td><td>8</td></tr> <tr><td>-</td><td> </td><td>8</td><td>0</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">6</td></tr> </table> | | 6 | 5 | 8 | - | | 8 | 0 | 6 | | | | <table border="1" style="width: 100%;"> <tr><td> </td><td>3</td><td>5</td><td>9</td></tr> <tr><td>-</td><td>2</td><td>3</td><td>6</td></tr> <tr><td colspan="4" style="border-top: 1px solid black;">1</td></tr> </table> | | 3 | 5 | 9 | - | 2 | 3 | 6 | 1 | | | |
| | 8 | 3 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 4 | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 6 | 5 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | | 8 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 | 5 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 2 | 3 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |