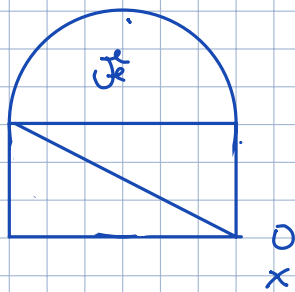
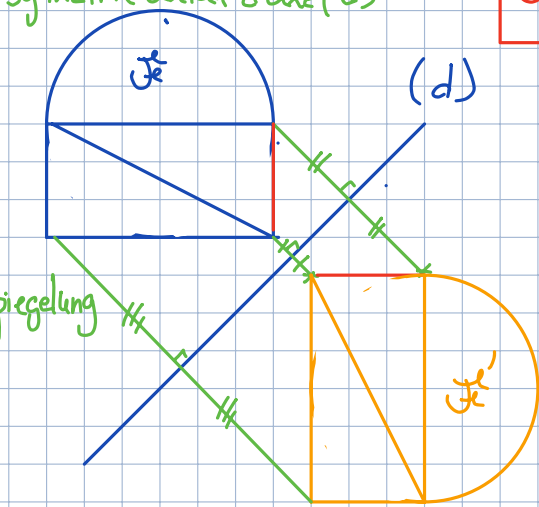


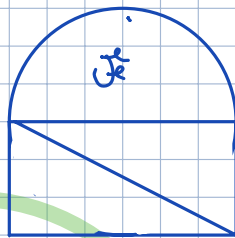
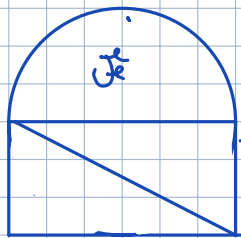
Symétrie axiale d'axe (d)

Chapitre 9 : Homothéties

Achsen Spiegelung



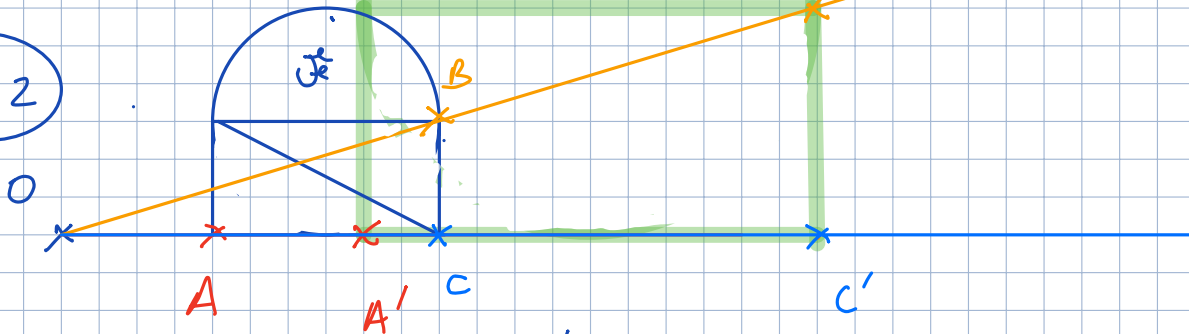
angle de rotation
45°



Homothétie:

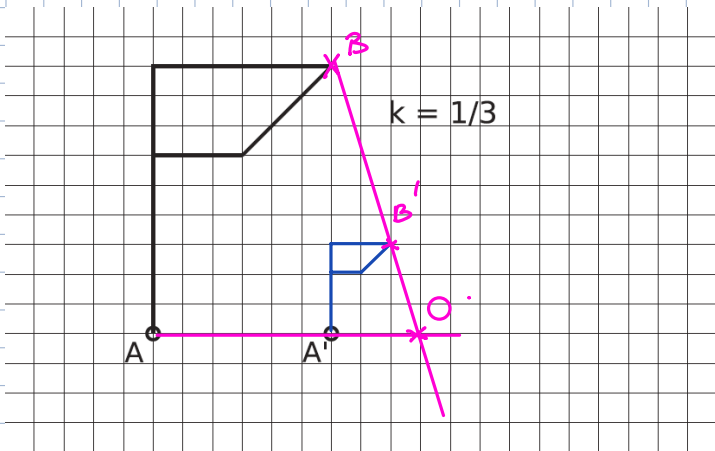
- centre O
- rapport k

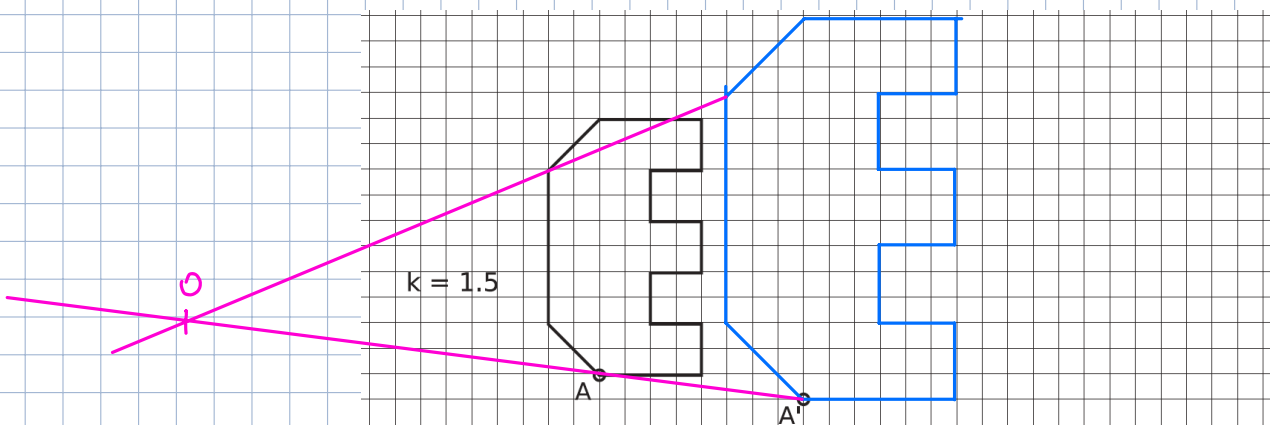
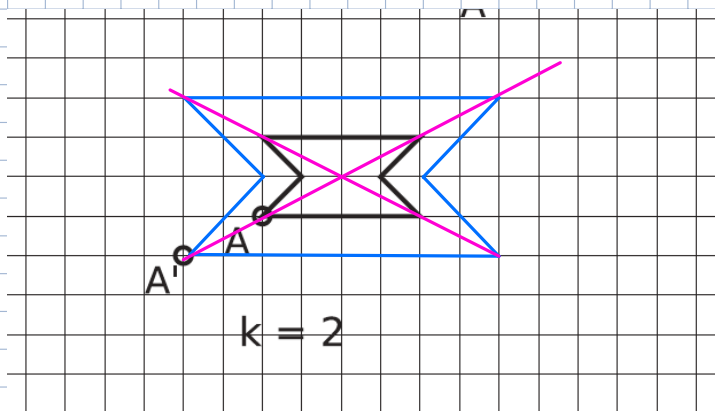
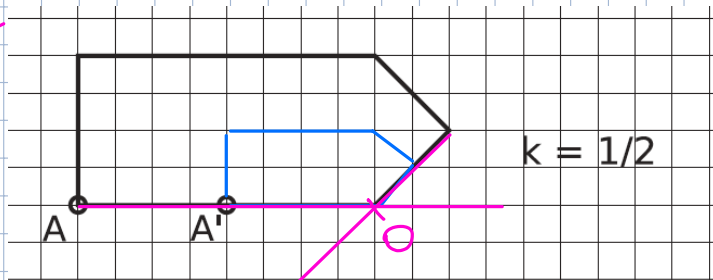
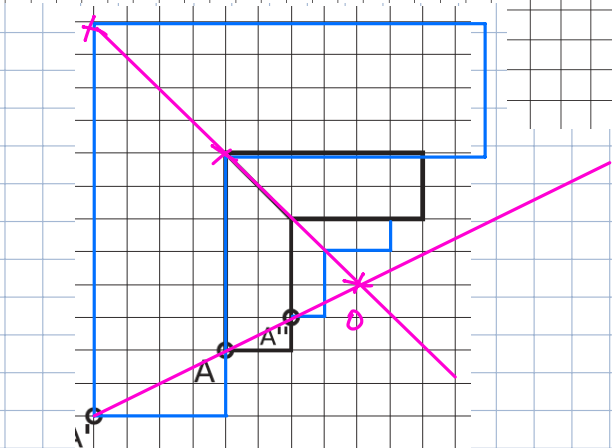
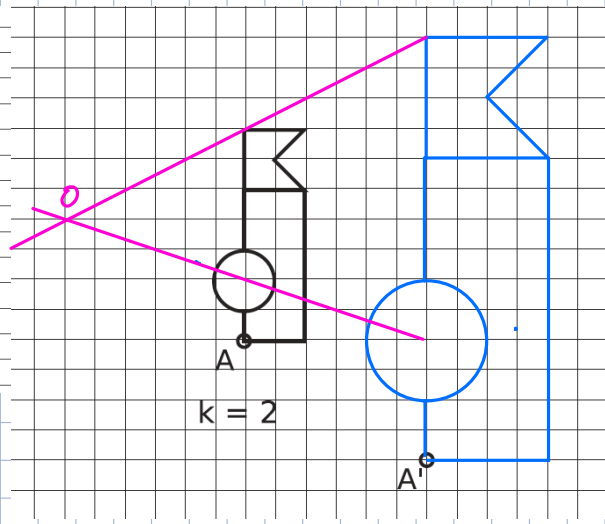
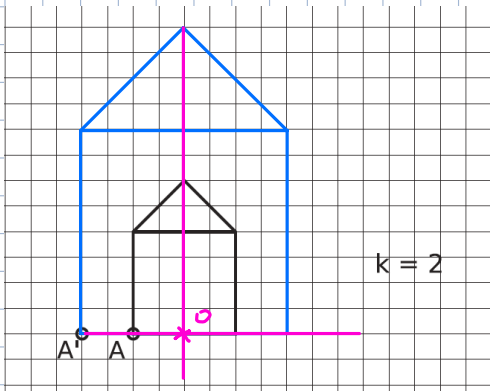
$$k = 2$$

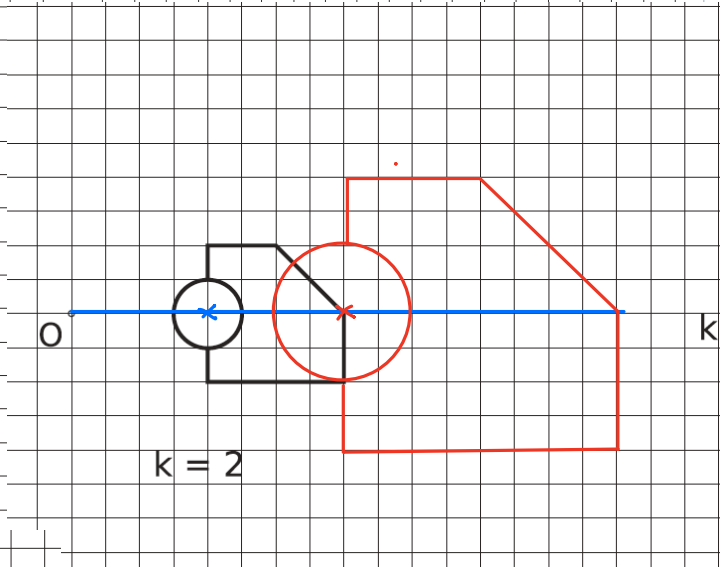
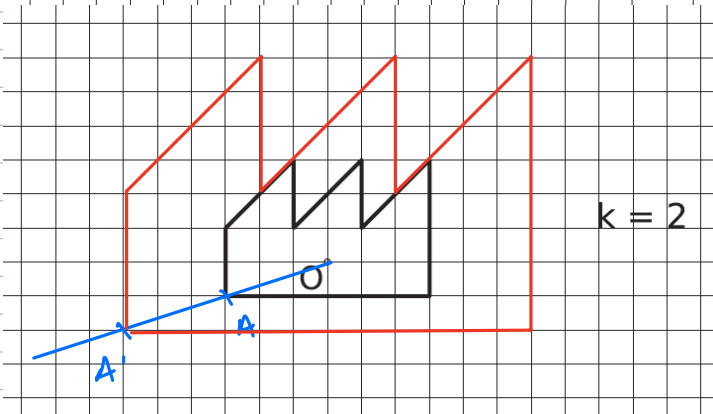
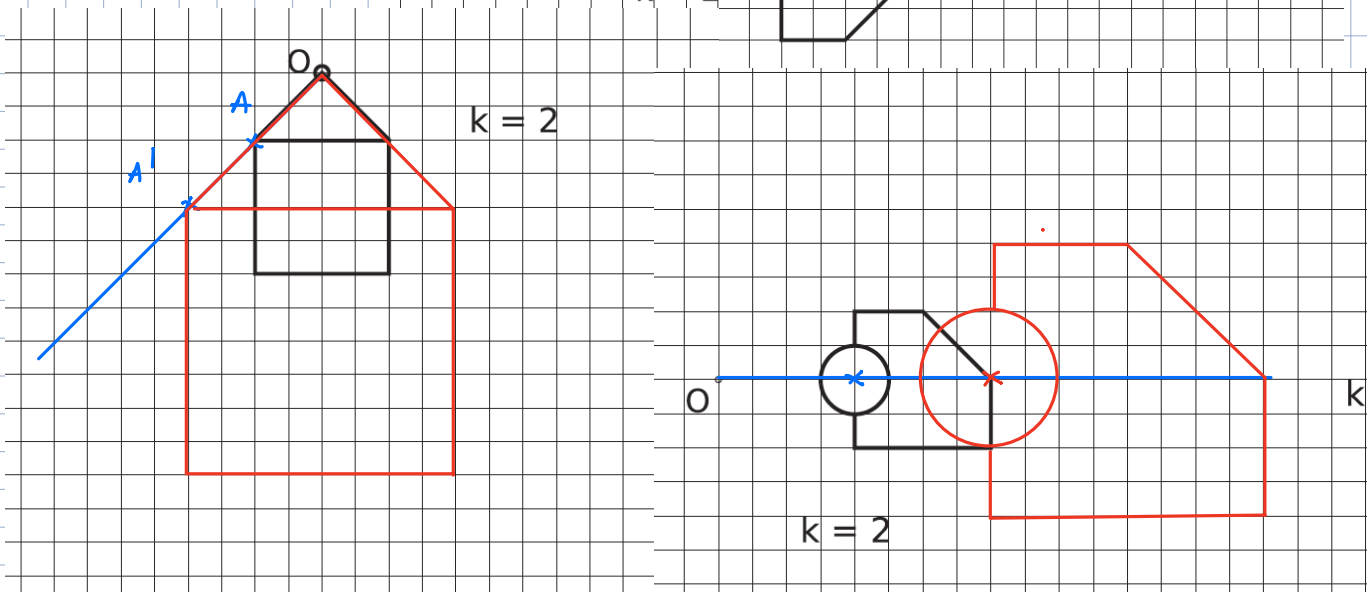
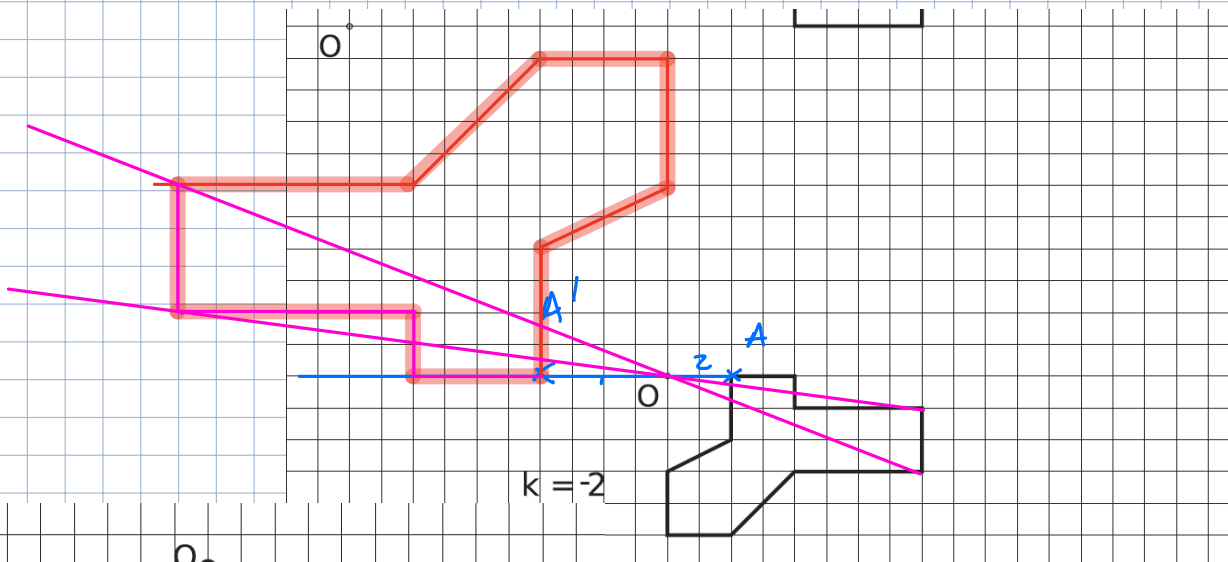
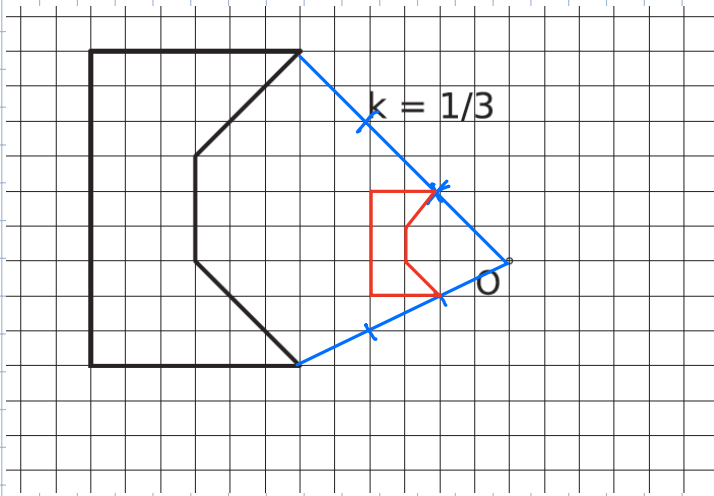


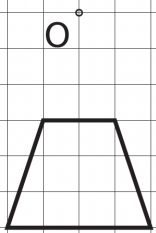
$$OA' = k \times OA$$

ex 1

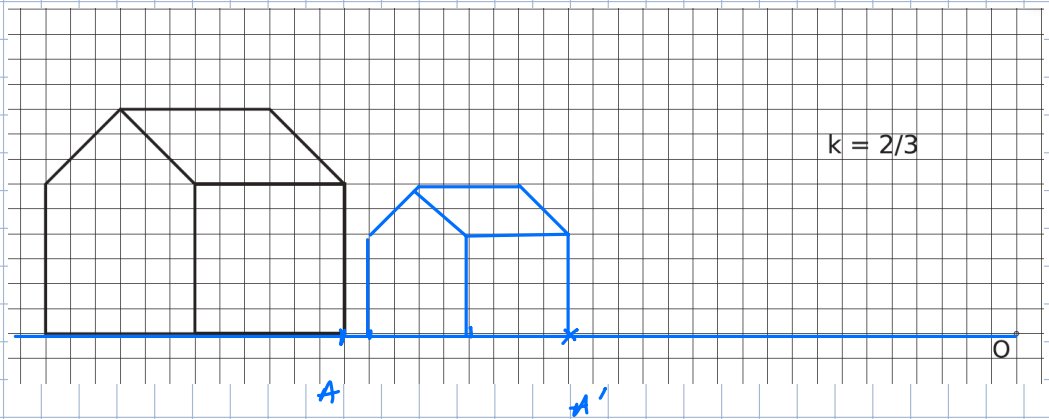
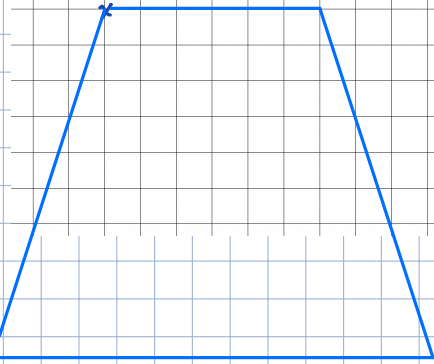








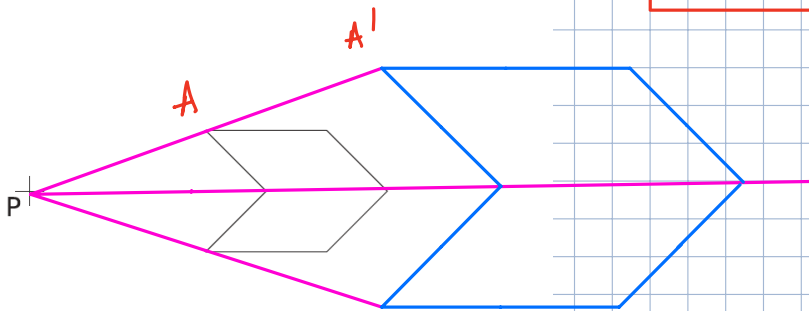
$k = 3$



$k = 2/3$

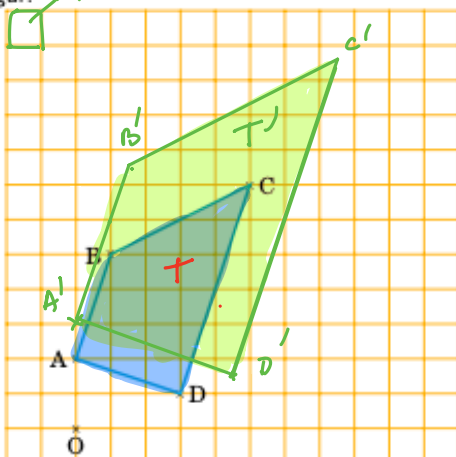
$$PA' = k \times PA$$

$k=2$



Übung 1 : Flächeninhalt

- Bestimme den Flächeninhalt des Vierecks ABCD, indem du erforderlichen Längen misst.
- Bilde das Viereck ABCD durch zentrische Streckung mit $k = 1,5$ ab. Bestimme jeweils den Flächeninhalt von Original- und Bildfigur.



$$T = \frac{(b+B) \times h}{2} = 15 \text{ cm} \times 0,5$$

$$= 15 \times 0,5 \times 0,5 = \frac{15}{4} \text{ cm}^2$$

$$= 3,75 \text{ cm}^2$$

Die zentrische Streckung multipliziert die Flächeninhalte mit k^2 also:

$$T' = T \times 1,5^2$$

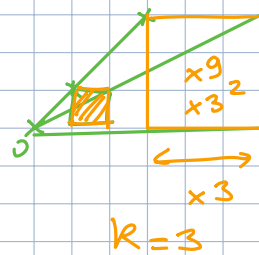
$$T' = 3,75 \times 1,5^2$$

$$T' = 8,4375 \text{ cm}^2$$

$$T' \approx 8,438 \text{ cm}^2 \text{ auf } 0,001 \text{ gerundet.}$$

Üb3-4.

Üb5: Verhältnis 6 : 2 : 3



1) $36L \xrightarrow[\times k^3]{\times 2} 72L \xrightarrow[\times k^3]{\times 2} 144L \xrightarrow[\times k^3]{\times 2} 288L$

$$k^3 = 2 \quad k = \sqrt[3]{2} \approx 1,260 \cdot 10^{-3} \text{ pro}$$

2) $36L = 36 \text{ dm}^3 = 6 \text{ dm} \times 2 \text{ dm} \times 3 \text{ dm}$

$72L = 72 \text{ dm}^3 \approx 7,56 \text{ dm} \times 2,52 \text{ dm} \times 3,78 \text{ dm}$

$144L = 144 \text{ dm}^3 \approx 9,53 \text{ dm} \times 3,18 \text{ dm} \times 4,76 \text{ dm}$

$288L = 288 \text{ dm}^3 = 12 \text{ dm} \times 4 \text{ dm} \times 6 \text{ dm}$

$\downarrow \times 1,260 = \sqrt[3]{2}$
 $\downarrow \times 1,260 = \sqrt[3]{2}$
 $\downarrow \times 1,260 = \sqrt[3]{2}$
 $\left. \begin{array}{l} \times 1,260 = \sqrt[3]{2} \\ \times 1,260 = \sqrt[3]{2} \\ \times 1,260 = \sqrt[3]{2} \end{array} \right\} \times 2$