

I. SYMETRIQUE D'UNE FIGURE.**a. Définition :**

Toute figure est un ensemble de points.

On appelle symétrique d'une figure l'ensemble des symétriques des points constituant la figure.

b. Symétriques de figures usuelles :

La symétrique d'une droite par rapport à (d) est une droite.

Le symétrique d'un segment par rapport à (d) est un segment de même longueur.

Le symétrique d'un cercle par rapport à (d) est un cercle de même rayon.

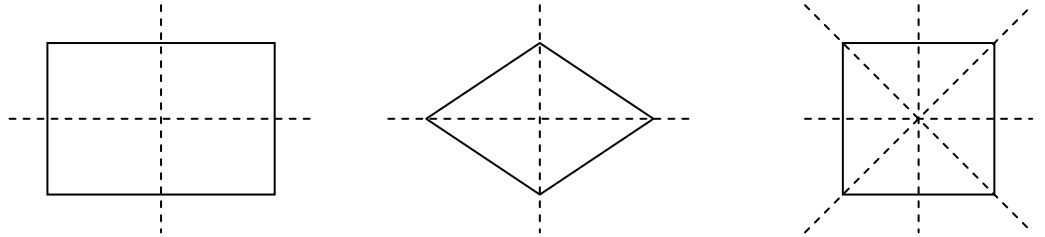
On dit que la symétrie axiale « conserve l'alignement », « conserve les longueurs » et « conserve les mesures d'angles ».

II. AXE DE SYMETRIE D'UNE FIGURE.

Quand une figure se confond (se superpose) avec sa symétrique par rapport à une certaine droite, on dit que cette droite est un **axe de symétrie de la figure**.

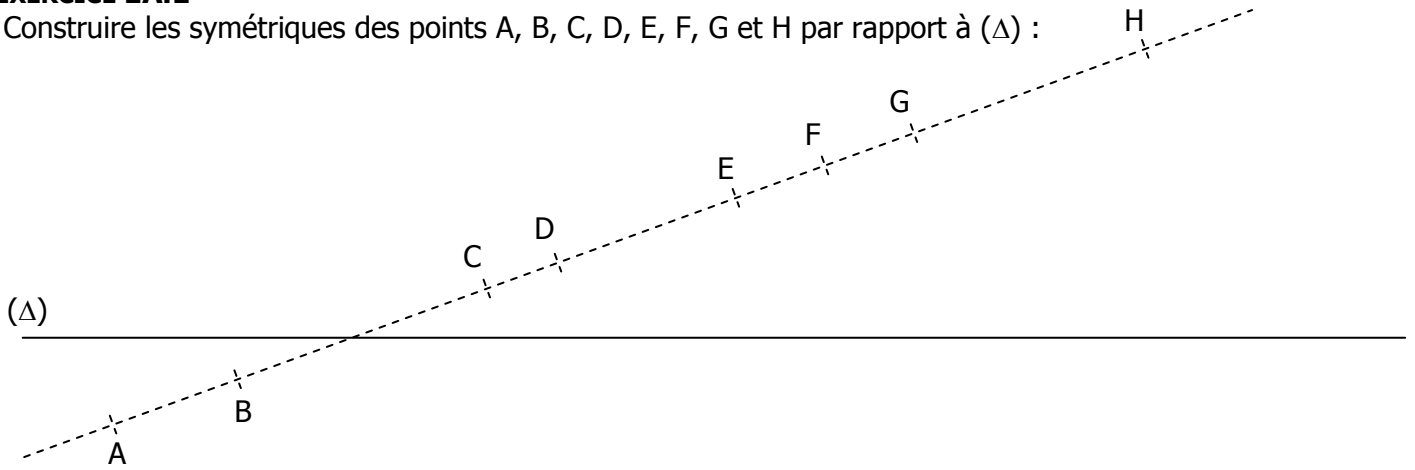
Exemples :

Quelques figures et leurs axes de symétrie :



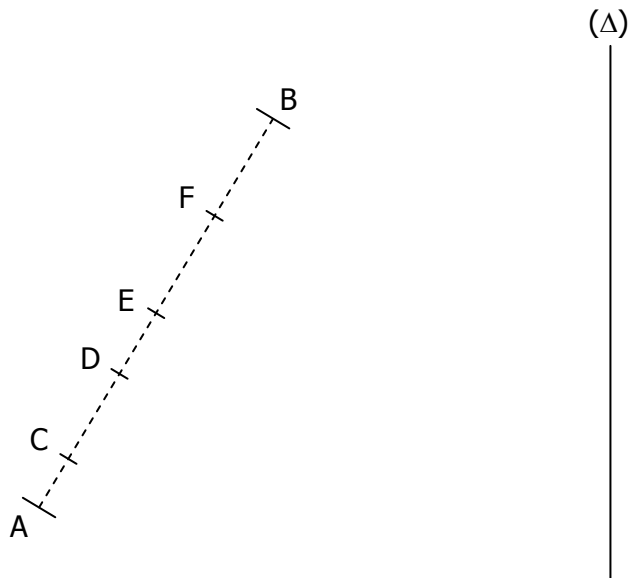
EXERCICE 1A.1

Construire les symétriques des points A, B, C, D, E, F, G et H par rapport à (Δ) :



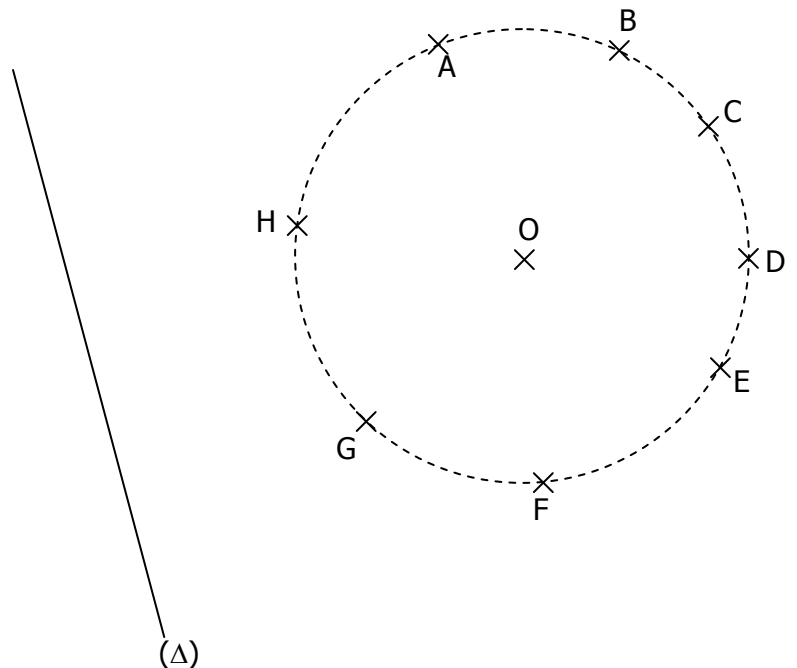
EXERCICE 1A.2

Construire les symétriques des points A, B, C, D, E et F par rapport à (Δ) :

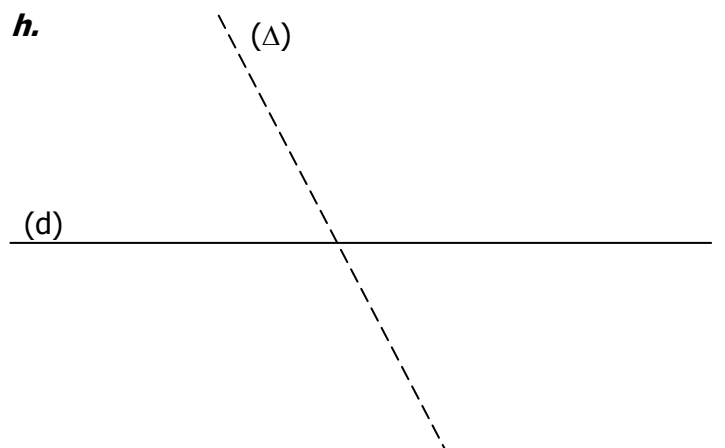
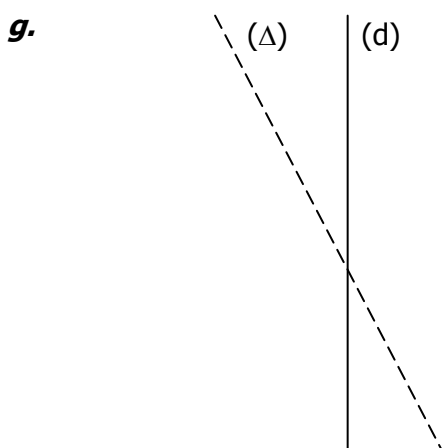
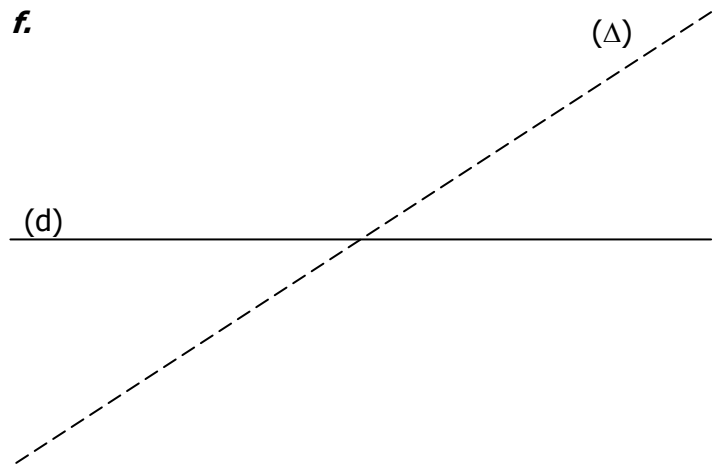
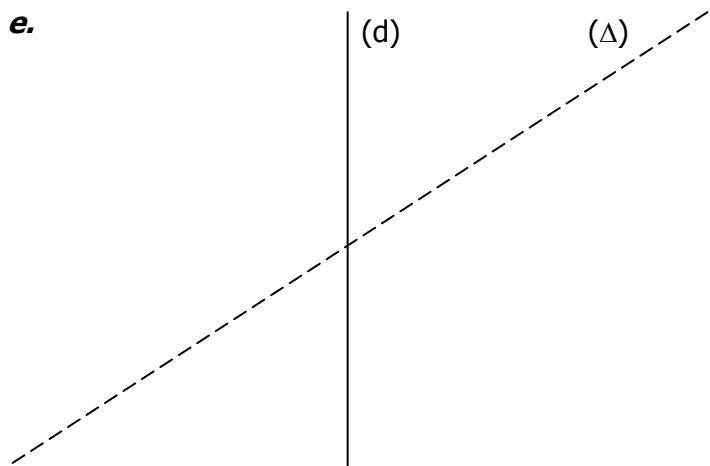
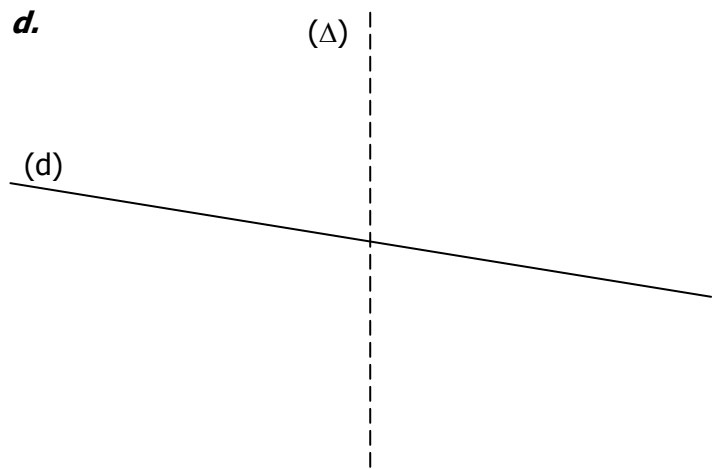
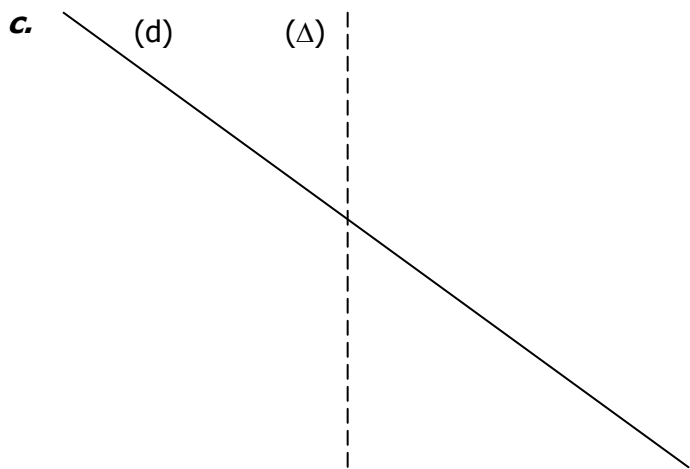
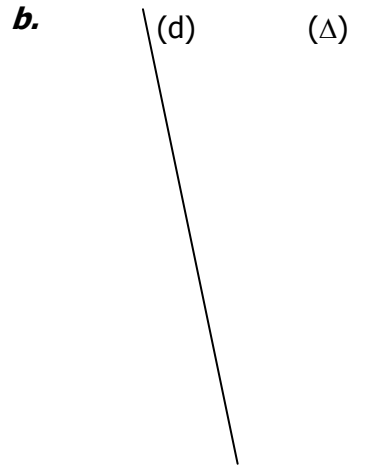
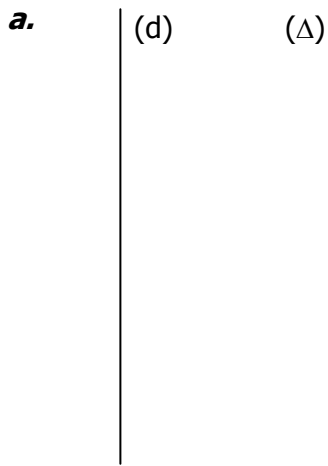


EXERCICE 1A.3

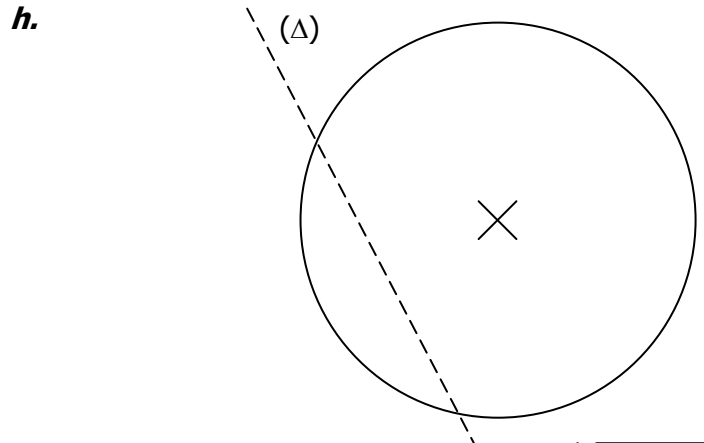
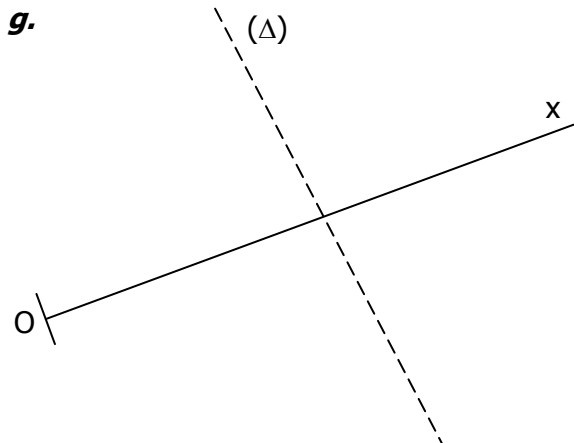
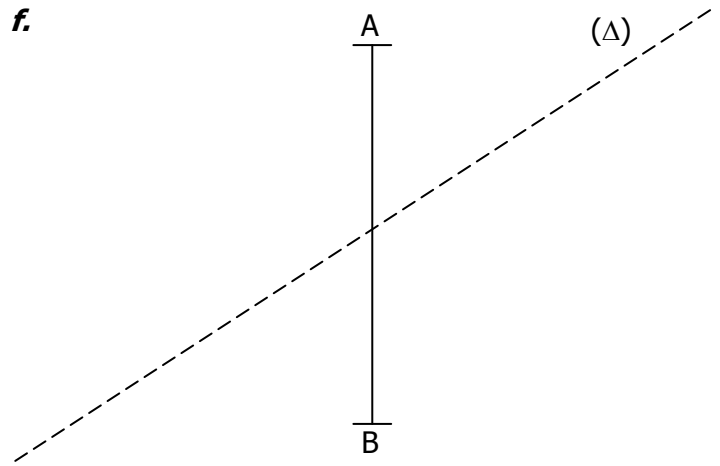
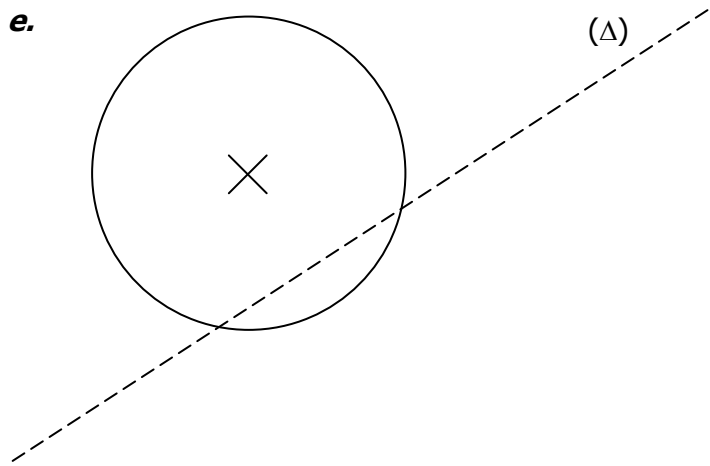
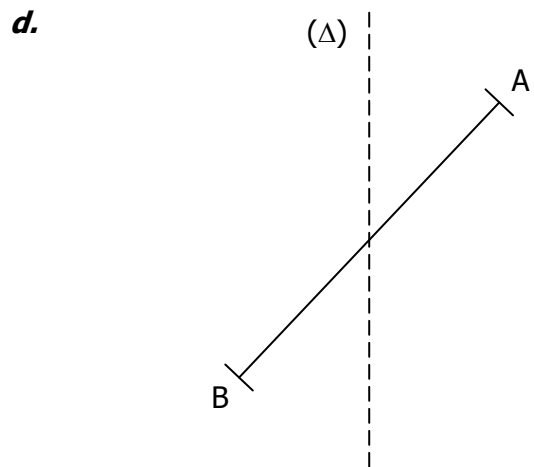
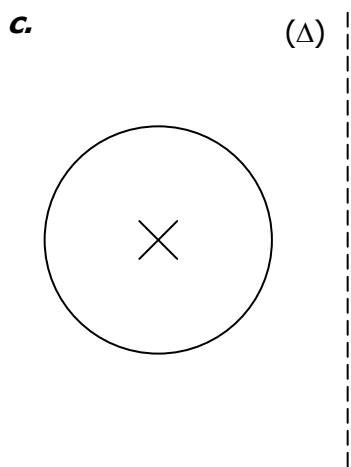
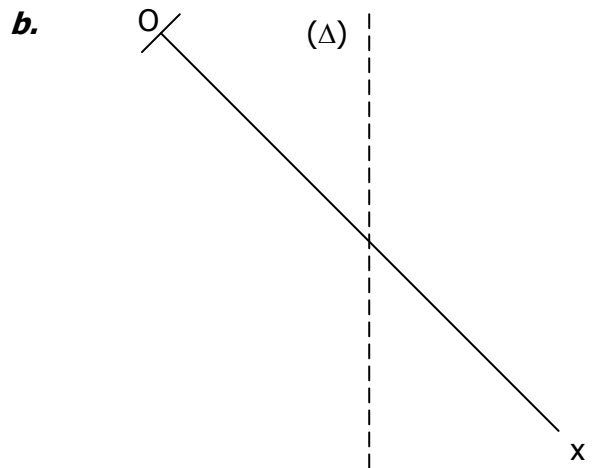
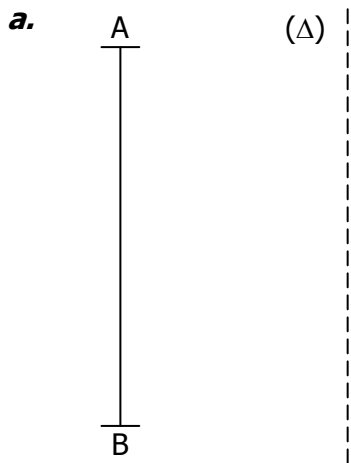
Construire les symétriques des points A, B, C, D, E, F, G et H par rapport à (Δ) :



Construire dans chaque cadre le symétrique de la droite (d) par rapport à l'axe (Δ) :

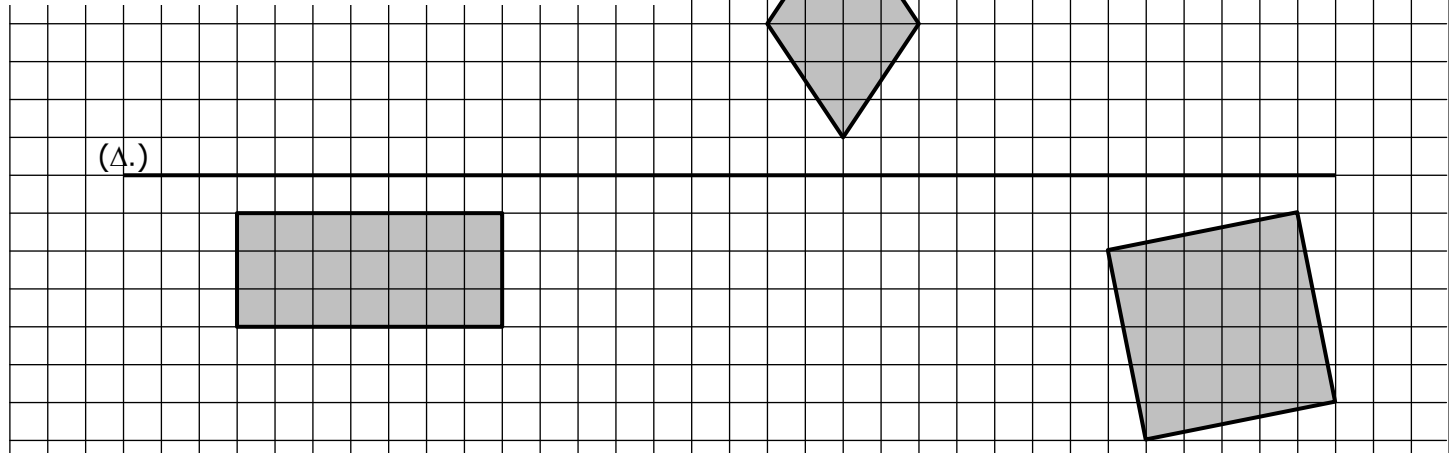


Construire dans chaque cadre le symétrique de la figure (demi-droite, segment ou cercle) par rapport à (Δ) :



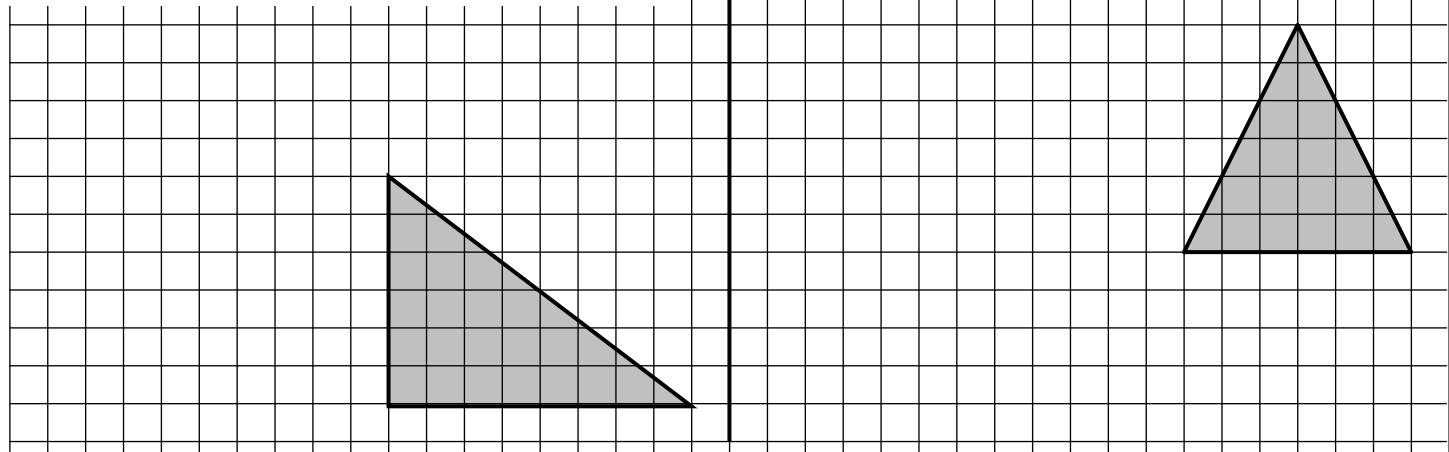
EXERCICE 2A.1

Construire les symétriques des 3 polygones gris par rapport à (Δ_1) :



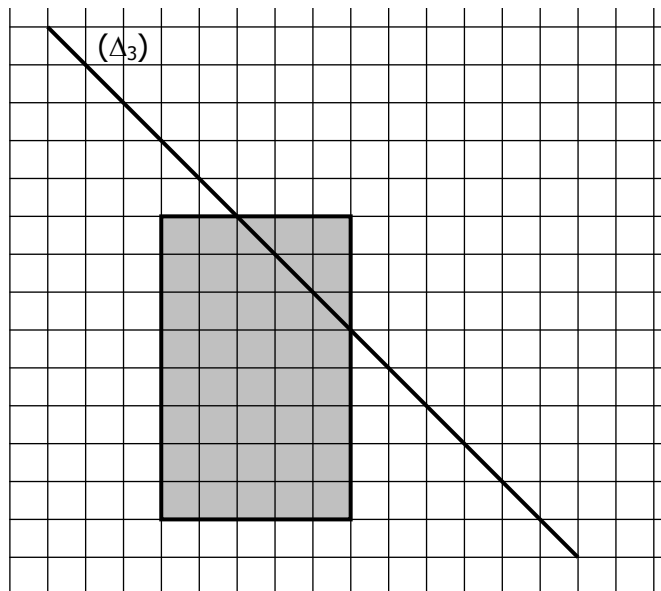
EXERCICE 2A.2

Construire les symétriques des 2 triangles gris par rapport à (Δ_2) :



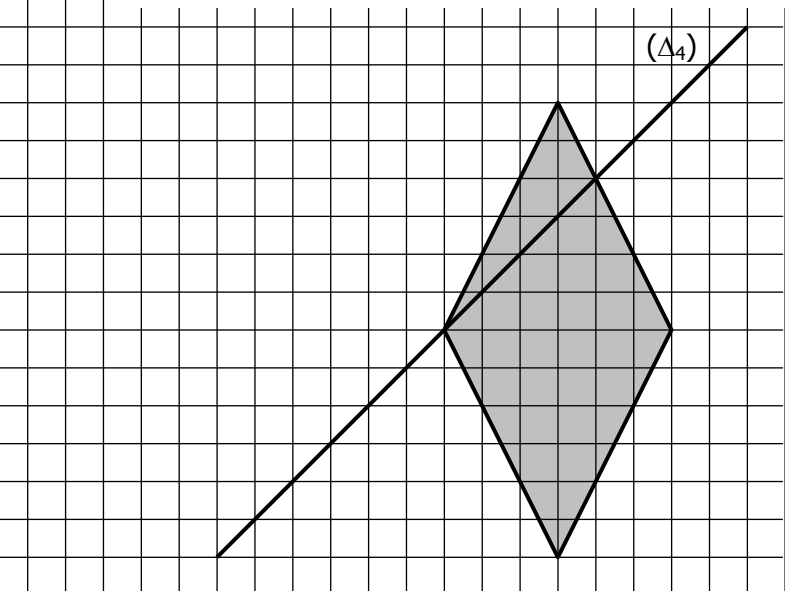
EXERCICE 2A.3

Construire le symétrique du rectangle gris par rapport à (Δ_3) :



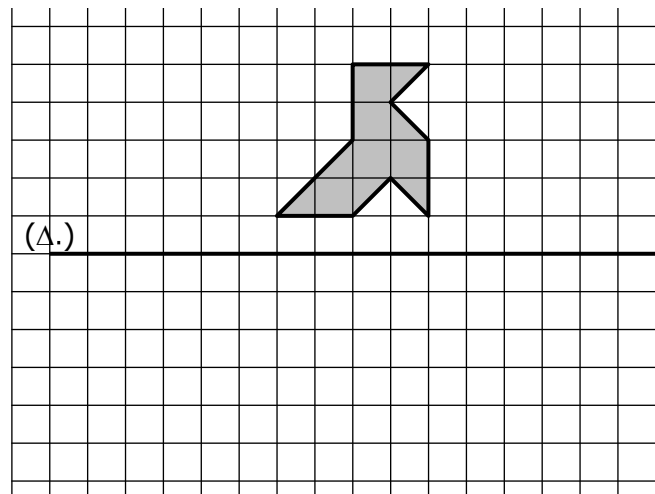
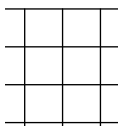
EXERCICE 2A.4

Construire le symétrique du losange gris par rapport à (Δ_4) :



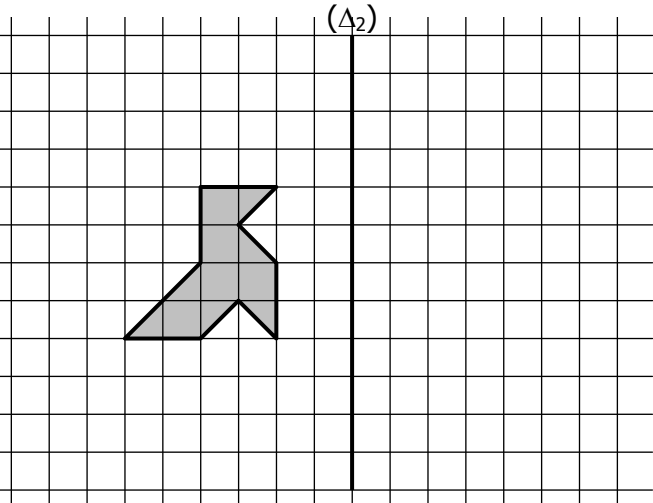
EXERCICE 2B.1

Construire le symétrique de la cocotte grise par rapport à (Δ_1) :



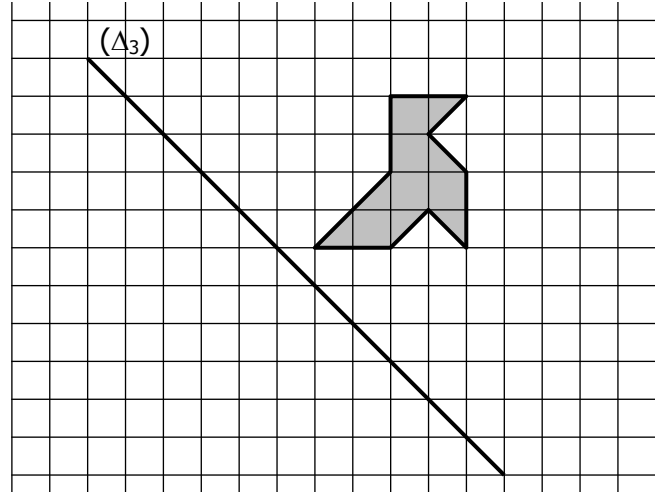
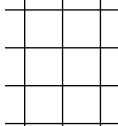
EXERCICE 2B.2

Construire le symétrique de la cocotte grise par rapport à (Δ_2) :



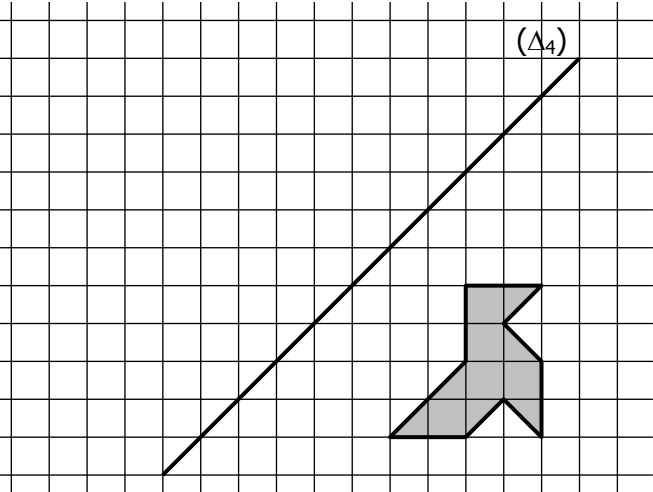
EXERCICE 2B.3

Construire le symétrique de la cocotte grise par rapport à (Δ_3) :



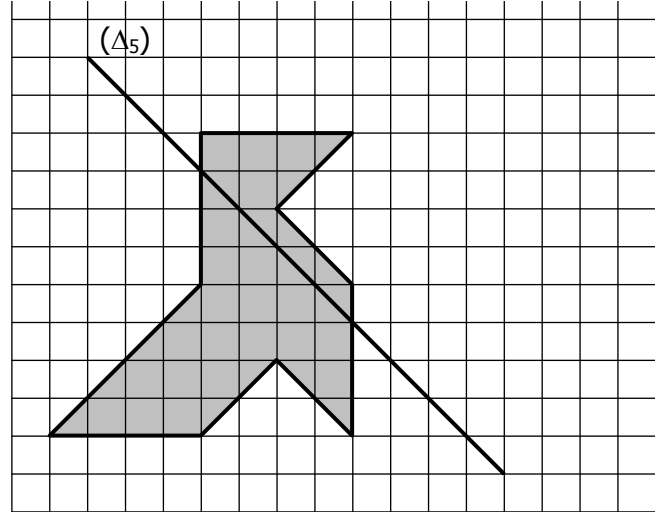
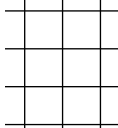
EXERCICE 2B.4

Construire le symétrique de la cocotte grise par rapport à (Δ_4) :



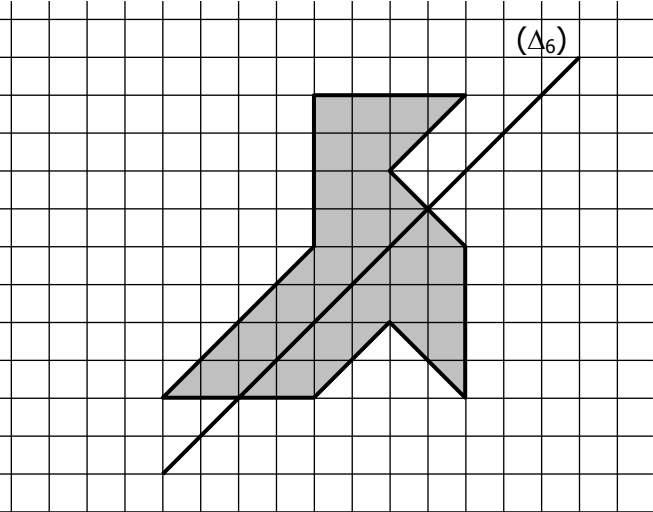
EXERCICE 2B.5

Construire le symétrique de la cocotte grise par rapport à (Δ_5) :

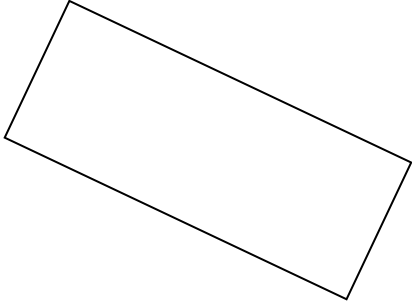


EXERCICE 2B.6

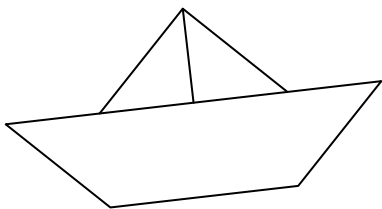
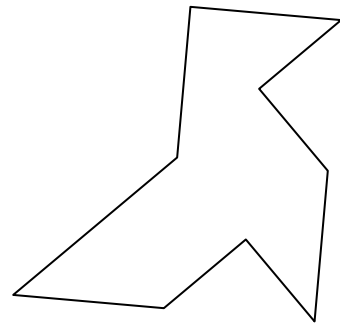
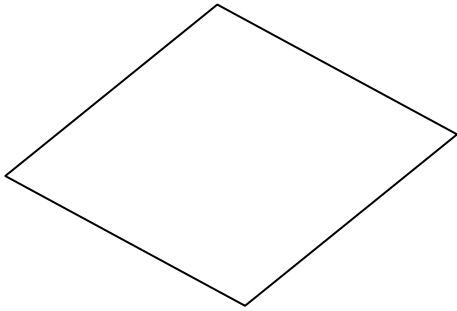
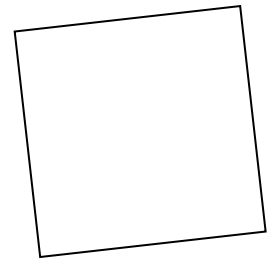
Construire le symétrique de la cocotte grise par rapport à (Δ_6) :



Construire les symétriques des figures suivantes par rapport à l'axe (Δ) :

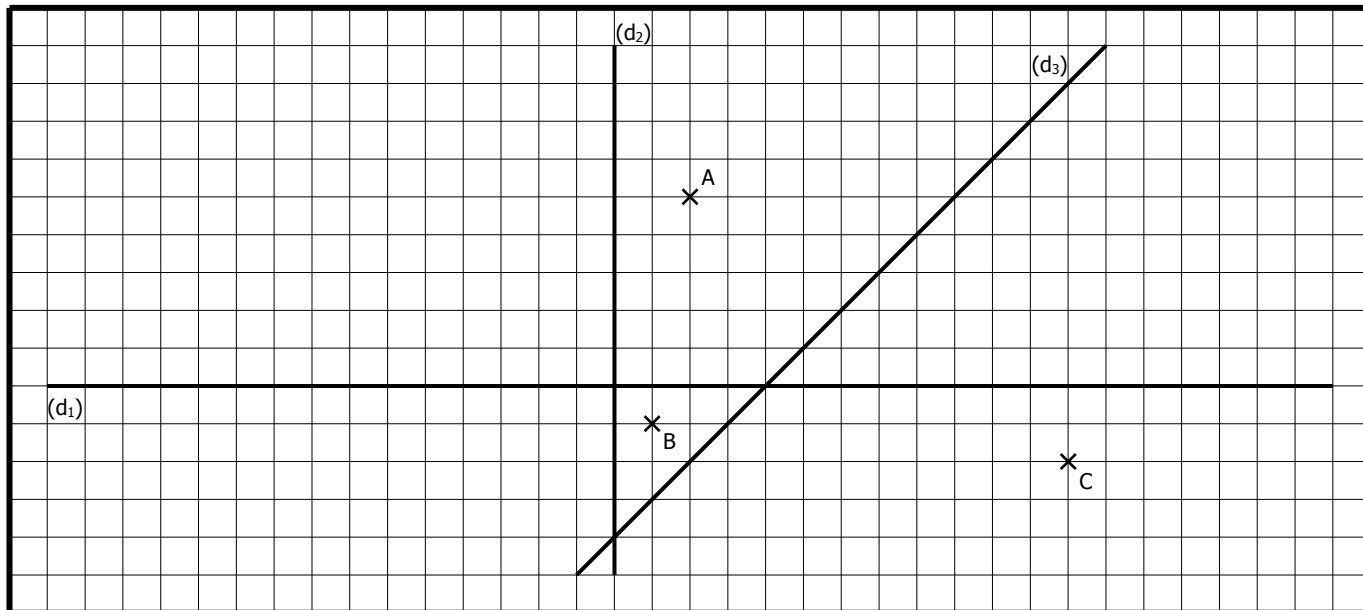


(Δ)



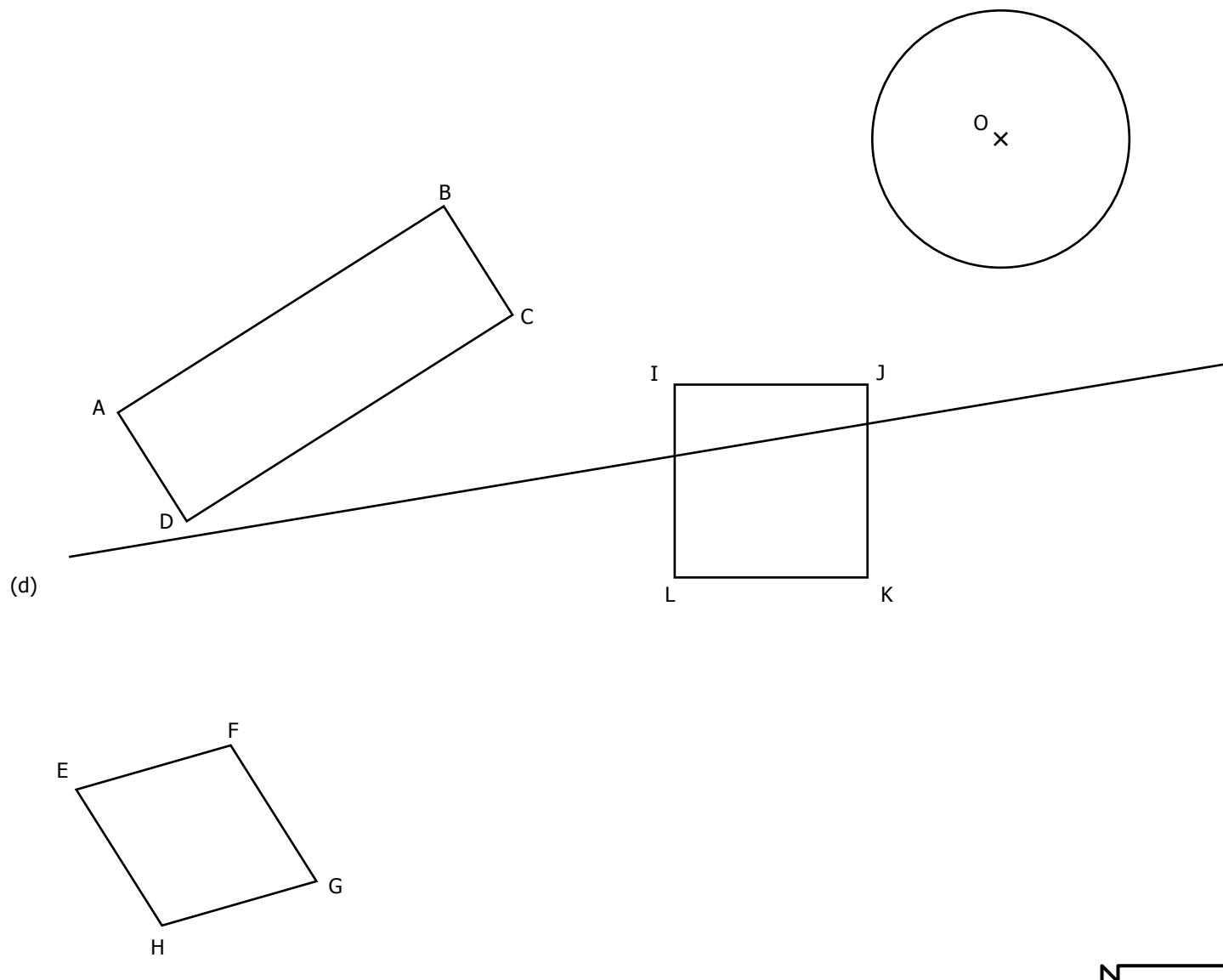
EXERCICE 2D.1

- a. Construire les points A_1 , B_1 et C_1 symétriques de A, B et C par rapport à la droite (d_1) .
- b. Construire les points A_2 , B_2 et C_2 symétriques de A, B et C par rapport à la droite (d_2) .
- c. Construire les points A_3 , B_3 et C_3 symétriques de A, B et C par rapport à la droite (d_3) .

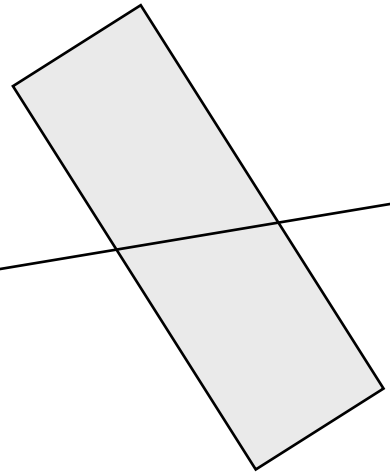
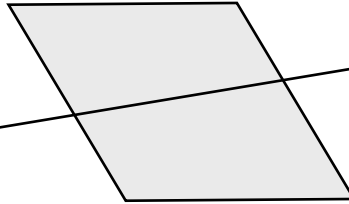
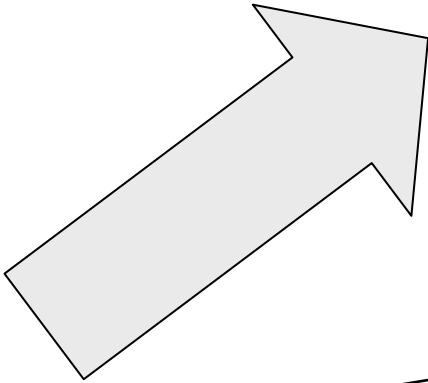
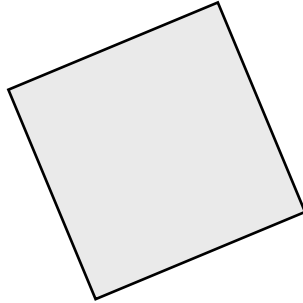
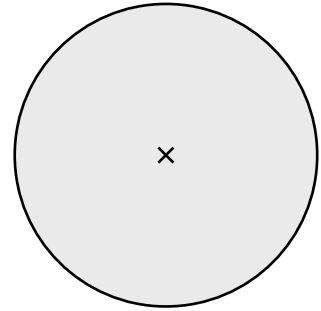
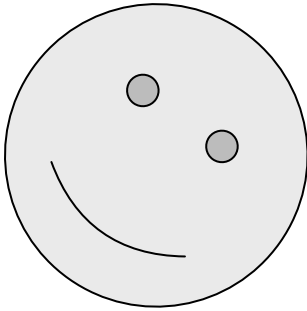


EXERCICE 2D.2

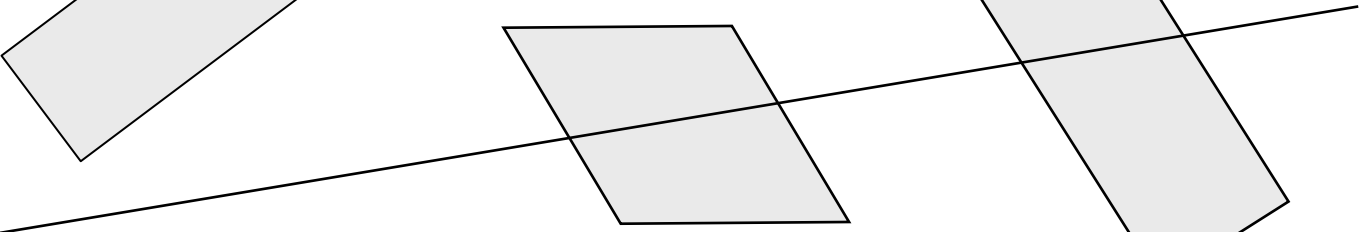
Construire les symétriques de chacune des figures suivantes par rapport à la droite (d) .



Construire les symétriques des figures suivantes par rapport à la droite (d).



(d)



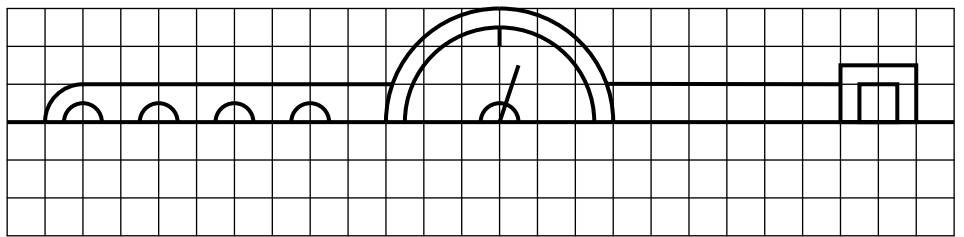
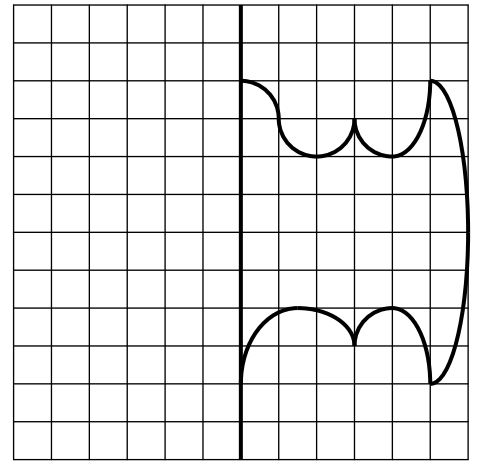
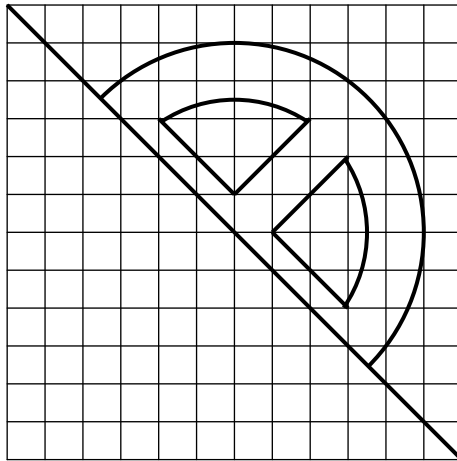
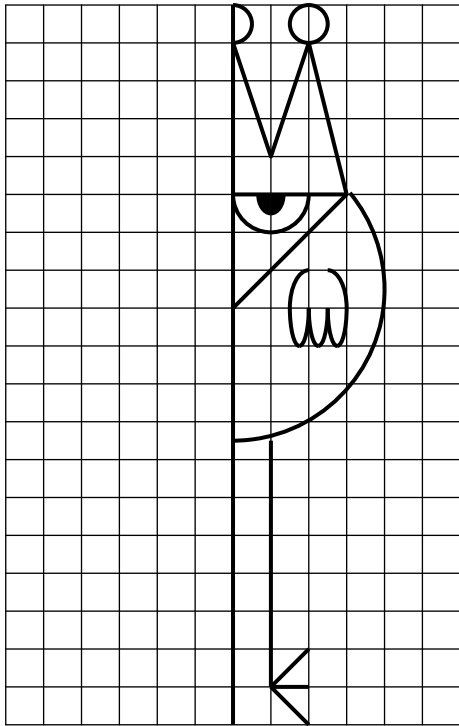
Construire les symétriques de la maison par rapport aux droites (d), puis (d') et enfin (d'').

The diagram shows a house on a grid. The house has a gabled roof, a chimney on the right side, two windows on the upper floor with curtains, and one window on the lower floor with curtains. A door with a handle is on the lower floor to the left. Three axes of symmetry are drawn:

- A horizontal line labeled (d) passing through the base of the house.
- A vertical line labeled (d') passing through the chimney.
- A diagonal line labeled (d'') passing through the center of the house.

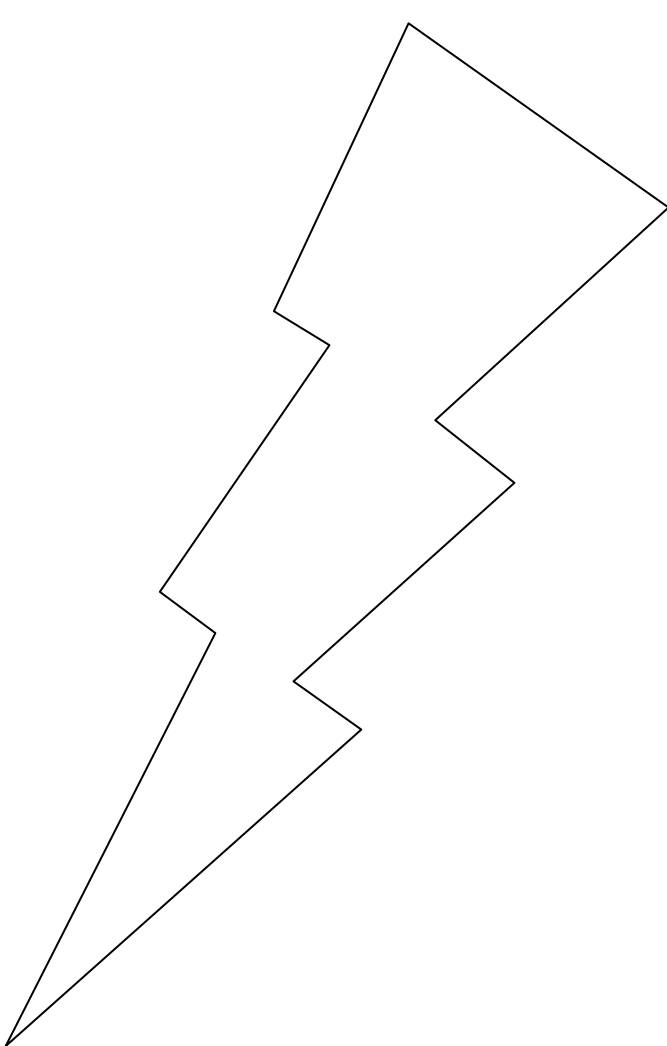
EXERCICE 2H.1

Compléter ces figures par symétrie en utilisant les quadrillages :



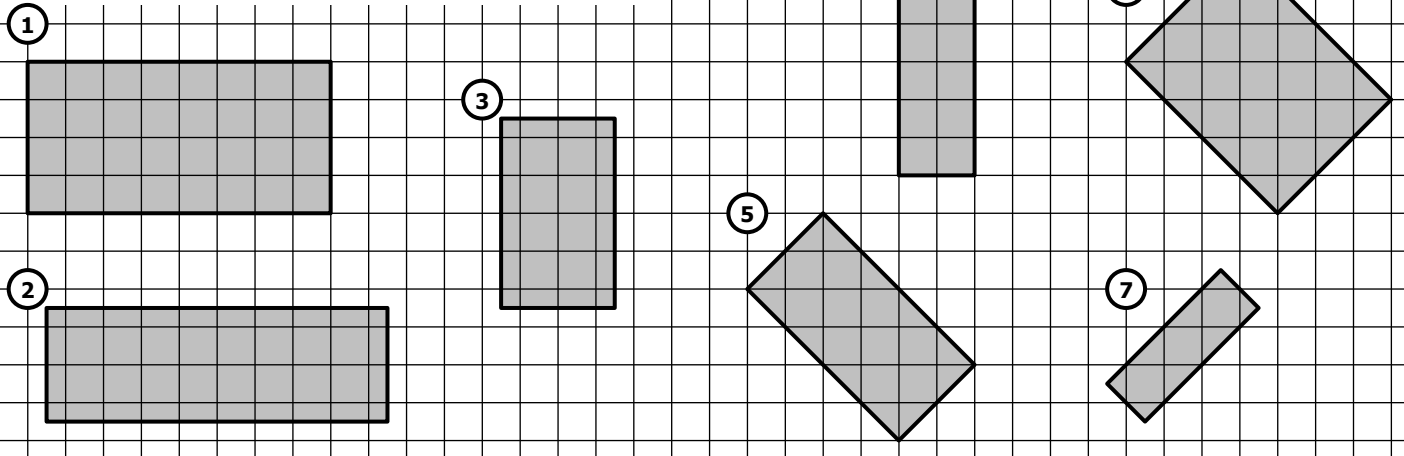
EXERCICE 2H.2

Construire le symétrique de cette figure en utilisant les instruments de géométrie :



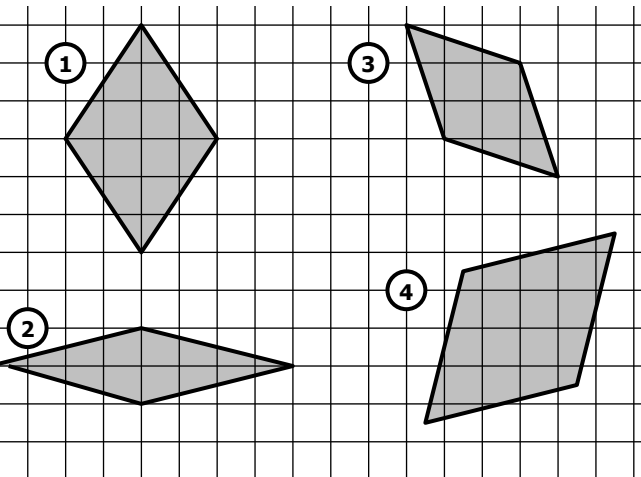
EXERCICE 3A.1

Tracer tous les axes de symétrie des rectangles suivants :



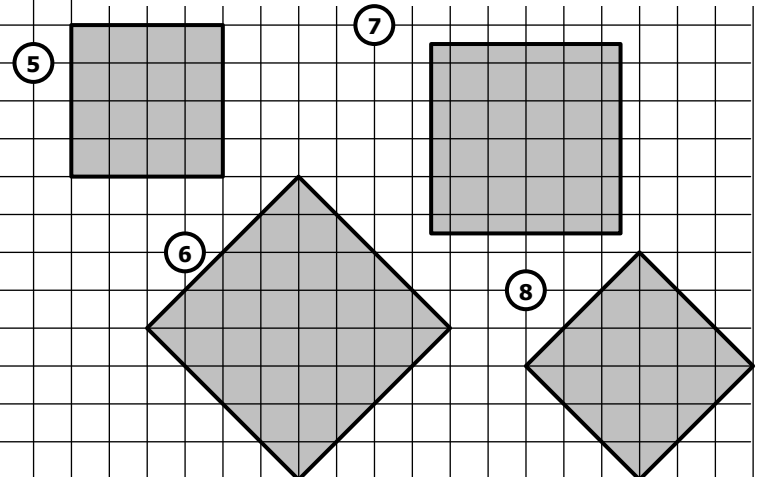
EXERCICE 3A.2

Tracer tous les axes de symétrie des losanges suivants :



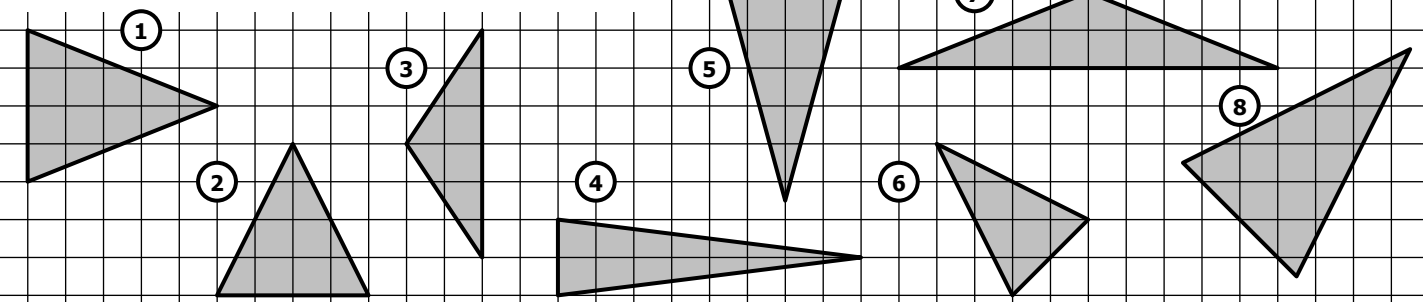
EXERCICE 3A.3

Tracer tous les axes de symétrie des carrés suivants :



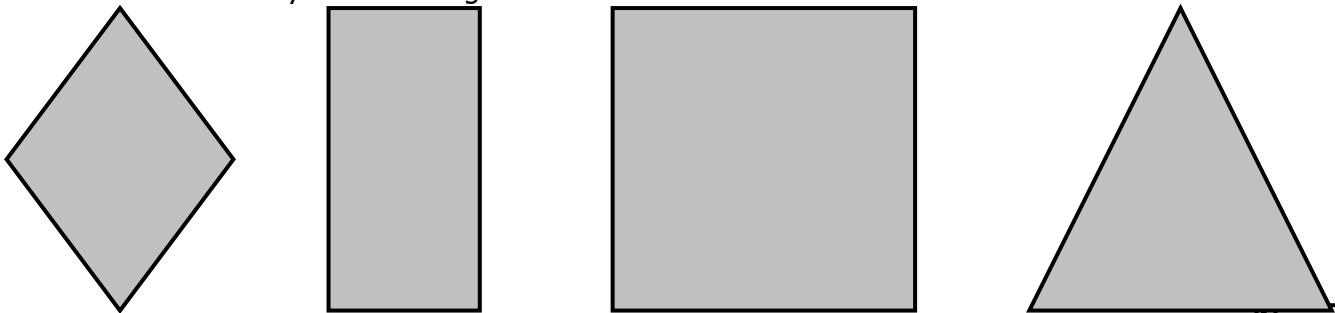
EXERCICE 3A.4

Tracer les axes de symétrie des triangles isocèles suivants :



EXERCICE 3A.5

Tracer tous les axes de symétrie des figures suivantes :



Tracer tous les axes de symétrie de ces figures (s'il y en a)

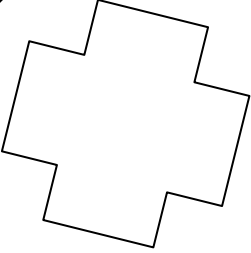
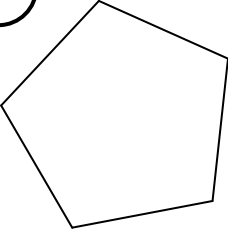
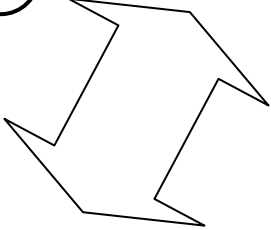
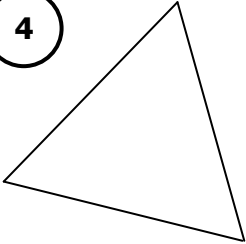
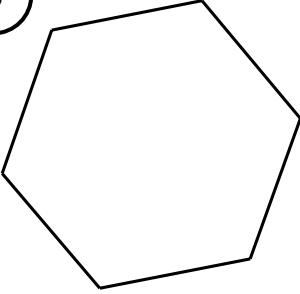
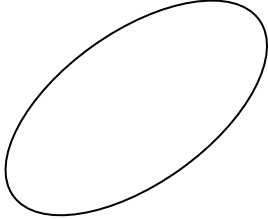
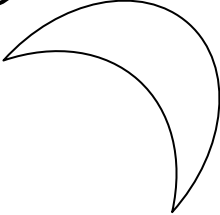
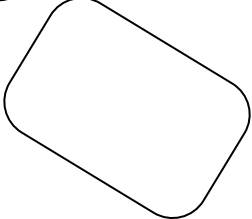
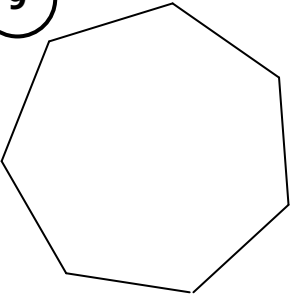
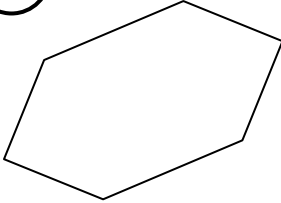
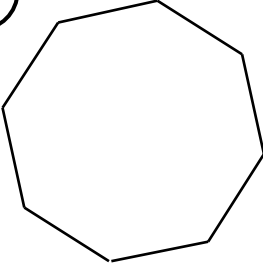
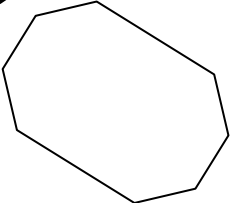
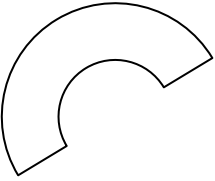
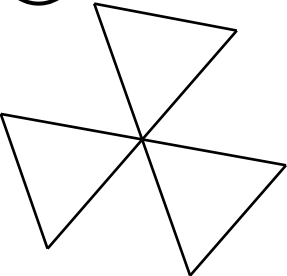
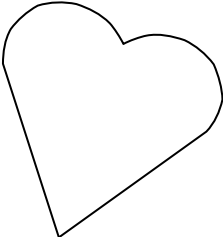
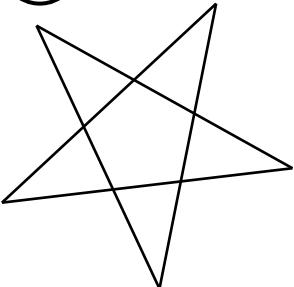
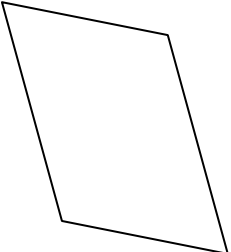
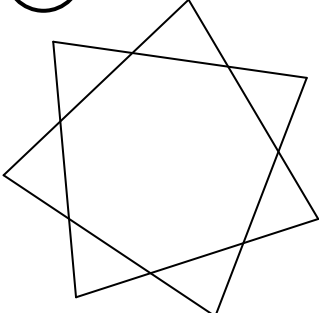
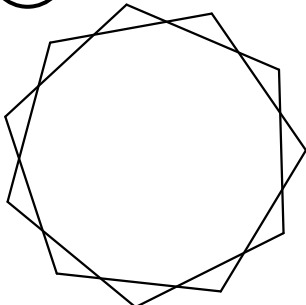
The grid contains 27 numbered shapes for symmetry analysis:

- 1: A vertical rectangle with a small square protruding from the center of each of its long sides.
- 2: A parallelogram with a triangle attached to its top side.
- 3: A four-pointed star with concave sides.
- 4: A five-pointed star with concave sides.
- 5: A four-pointed star with concave sides, elongated vertically.
- 6: A complex polygon with multiple concave sides.
- 7: A large eight-pointed star with concave sides.
- 8: A trapezoid.
- 9: A diamond shape (rhombus).
- 10: A diamond shape with a small square protruding from the center of each of its four sides.
- 11: A triangle with a small square protruding from the center of its top side.
- 12: A parallelogram.
- 13: A parallelogram.
- 14: A hexagon with concave sides.
- 15: A four-pointed star with concave sides.
- 16: A four-pointed star with concave sides.
- 17: A cross shape with a small square protruding from the center of each of its four arms.
- 18: A cross shape with a small square protruding from the center of each of its four arms.
- 19: A cross shape with a small square protruding from the center of each of its four arms.
- 20: A cross shape with a small square protruding from the center of each of its four arms.
- 21: A cross shape with a small square protruding from the center of each of its four arms.
- 22: A cross shape with a small square protruding from the center of each of its four arms.
- 23: A cross shape with a small square protruding from the center of each of its four arms.
- 24: A cross shape with a small square protruding from the center of each of its four arms.
- 25: A cross shape with a small square protruding from the center of each of its four arms.
- 26: A cross shape with a small square protruding from the center of each of its four arms.
- 27: A cross shape with a small square protruding from the center of each of its four arms.

Tracer les axes de symétrie (s'il y en a) de ces panneaux de signalisation :

	A	B	C	D	E	F	G
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

Tracer tous les axes de symétrie de ces figures :

<p>1</p> 	<p>2</p> 	<p>3</p> 	<p>4</p> 
<p>5</p> 	<p>6</p> 	<p>7</p> 	<p>8</p> 
<p>9</p> 	<p>10</p> 	<p>11</p> 	<p>12</p> 
<p>13</p> 	<p>14</p> 	<p>15</p> 	<p>16</p> 
<p>17</p> 	<p>18</p> 	<p>19</p> 	<p>20</p> 