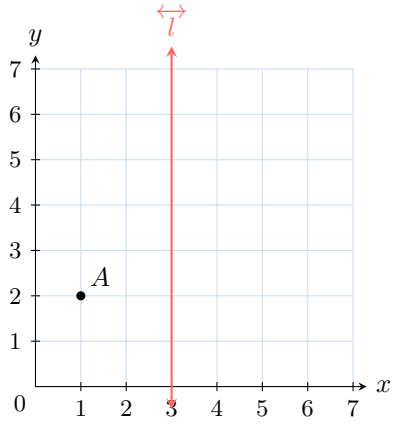
REFLECTION

A DEFINITIONS

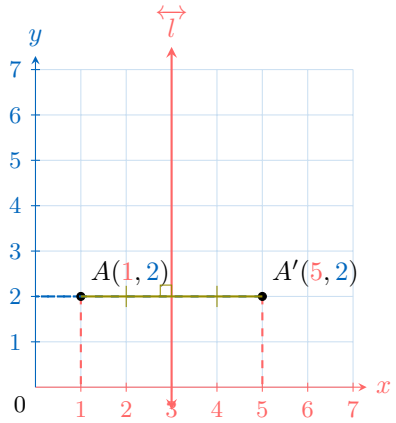
A.1 FINDING THE IMAGE OF A POINT

Ex 1: Find the coordinates of the image of point A under a reflection over line $\overleftrightarrow{l}$.



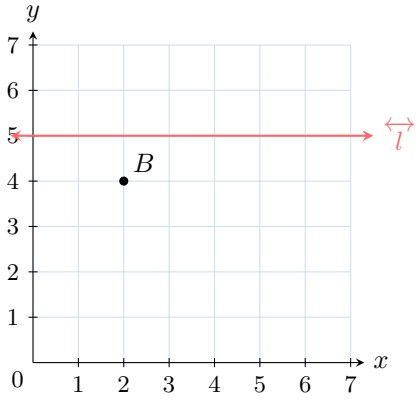
$A'(\boxed{5},\boxed{2})$

Answer:



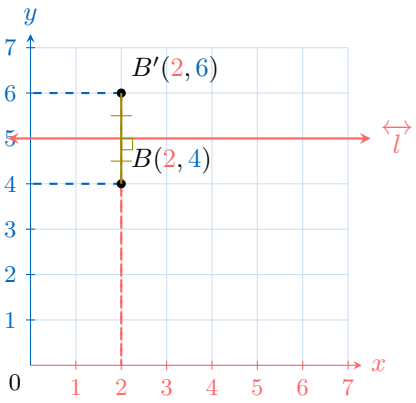
$A'(5, 2)$

Ex 2: Find the coordinates of the image of point B under a reflection over line $\overleftrightarrow{l}$.



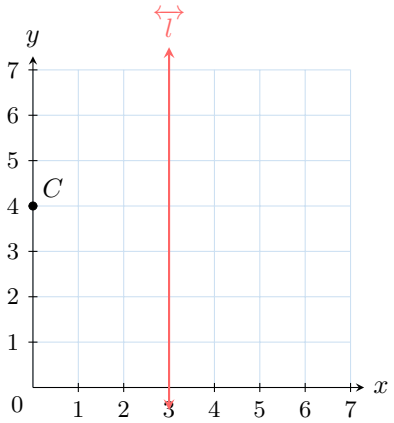
$B'(\boxed{2},\boxed{6})$

Answer:



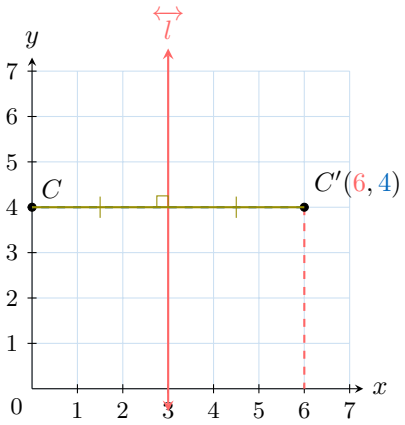
$B'(2, 6)$

Ex 3: Find the coordinates of the image of point C under a reflection over line $\overleftrightarrow{l}$.



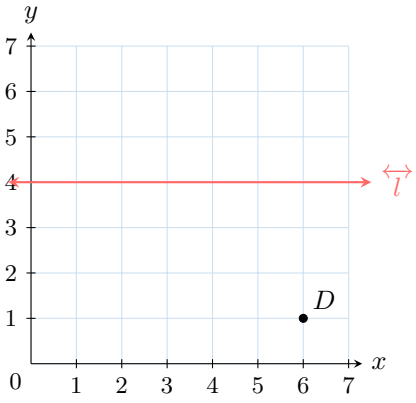
$C'(\boxed{6},\boxed{4})$

Answer:



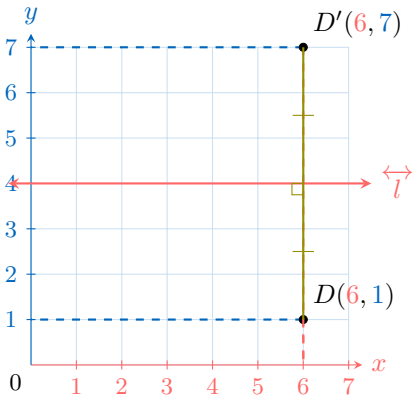
$C'(6, 4)$

Ex 4: Find the coordinates of the image of point D under a reflection over line $\overleftrightarrow{l}$.



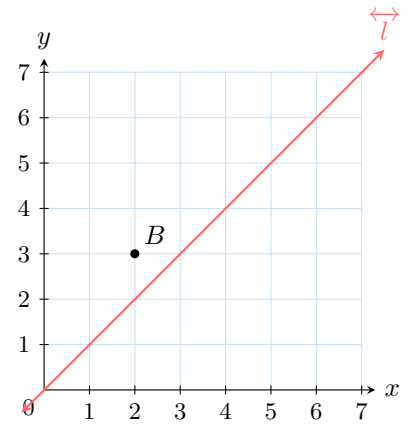
$D'(\boxed{6},\boxed{7})$

Answer:



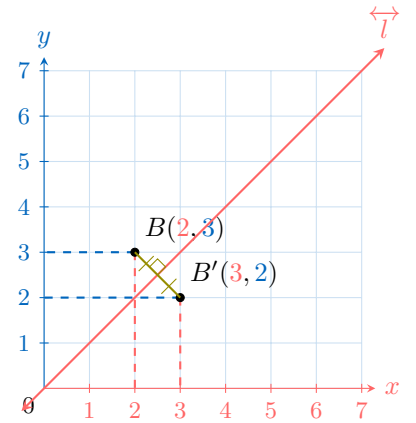
$D'(6,7)$

Ex 5: Find the coordinates of the image of point B under a reflection over the line $\overleftrightarrow{l}$.



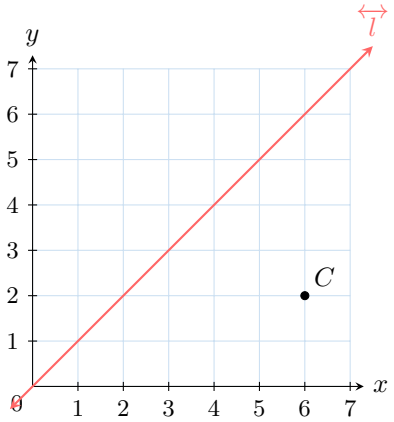
$B'(\boxed{3},\boxed{2})$

Answer:



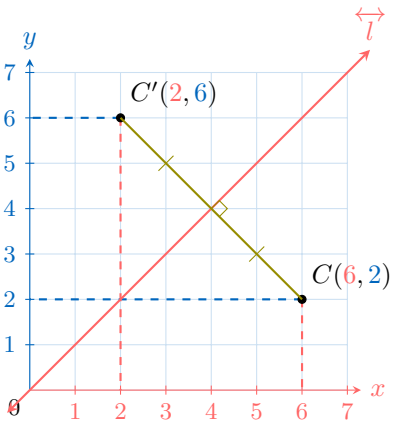
$B'(3,2)$

Ex 6: Find the coordinates of the image of point C under a reflection over the line $\overleftrightarrow{l}$.



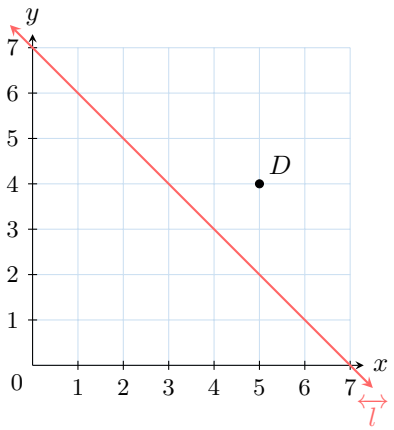
$C'(\boxed{2},\boxed{6})$

Answer:



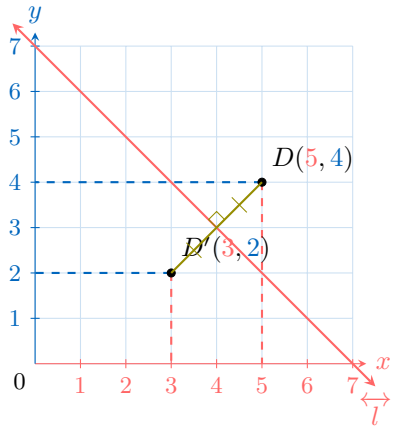
$C'(2,6)$

Ex 7: Find the coordinates of the image of point D under a reflection over the line $\overleftrightarrow{l}$.



$D'(\boxed{3},\boxed{2})$

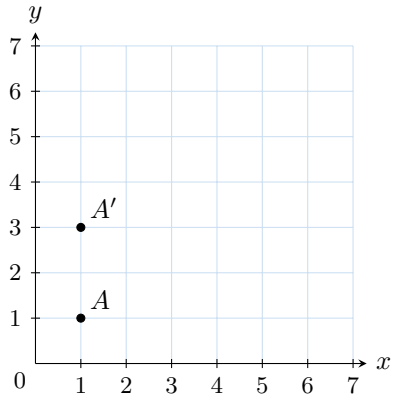
Answer:



$D'(3,2)$

A.2 FINDING THE LINE

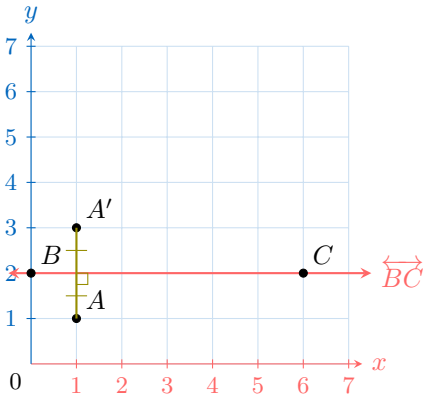
Ex 8: The point A' is the image of point A under a reflection over line $\overleftrightarrow{BC}$.



Find the coordinates of the points B and C

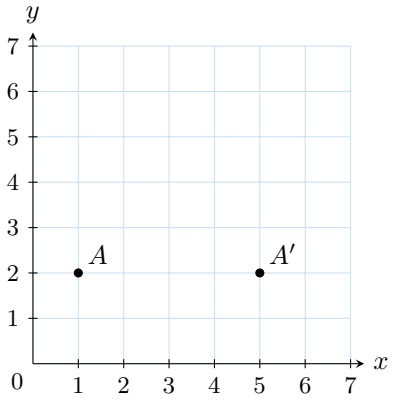
$B(0,\boxed{2})$ and $C(6,\boxed{2})$

Answer:



$B(0,2)$ and $C(6,2)$

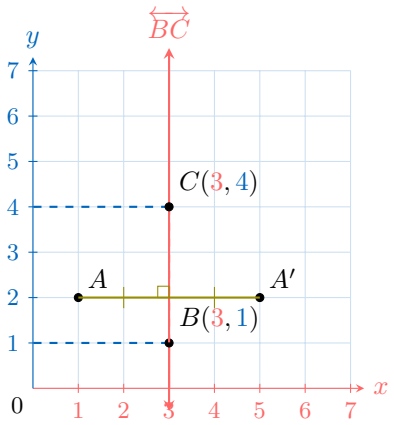
Ex 9: The point A' is the image of point A under a reflection over line $\overleftrightarrow{BC}$.



Find the coordinates of the points B and C

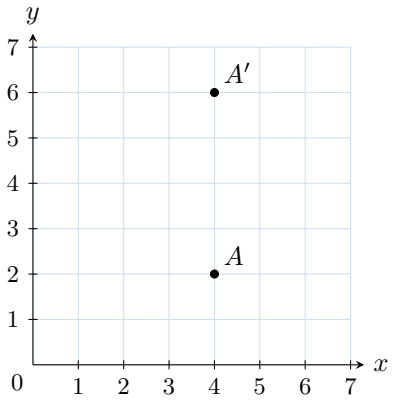
$B(\boxed{3},1)$ and $C(\boxed{3},4)$

Answer:



$B(3,1)$ and $C(3,4)$

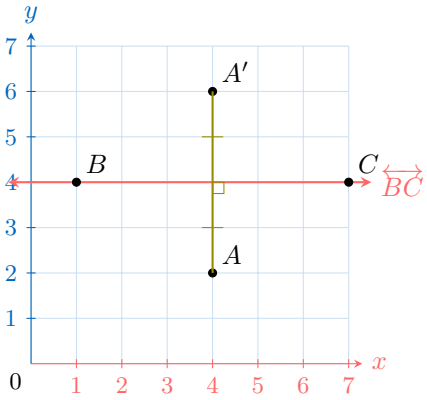
Ex 10: The point A' is the image of point A under a reflection over line $\overleftrightarrow{BC}$.



Find the coordinates of the points B and C

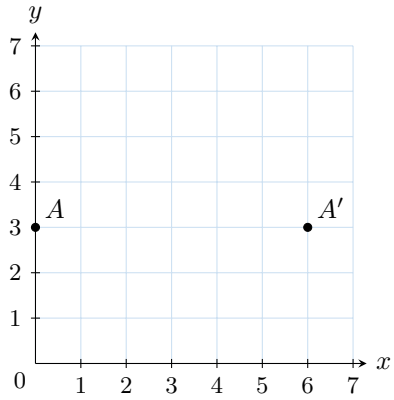
$B(1,\boxed{4})$ and $C(7,\boxed{4})$

Answer:



$B(1, 4)$ and $C(7, 4)$

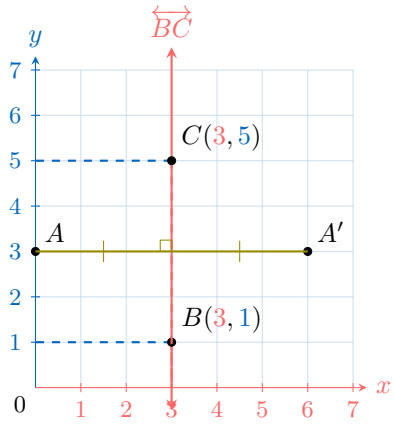
Ex 11: The point A' is the image of point A under a reflection over line $\overleftrightarrow{BC}$.



Find the coordinates of the points B and C

$B(\boxed{3}, 1)$ and $C(\boxed{3}, 5)$

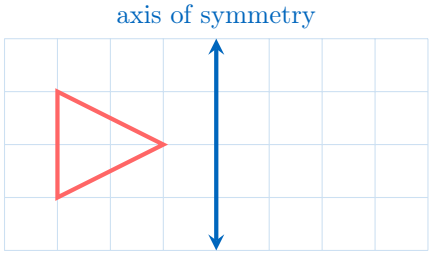
Answer:



$B(3, 1)$ and $C(3, 5)$

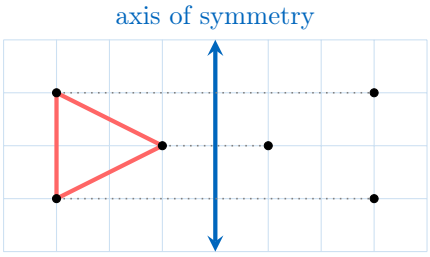
A.3 DRAWING MIRROR FIGURES

Ex 12: Draw the mirror figure.

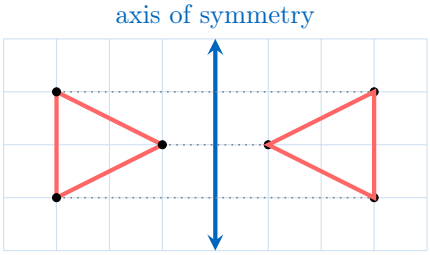


Answer:

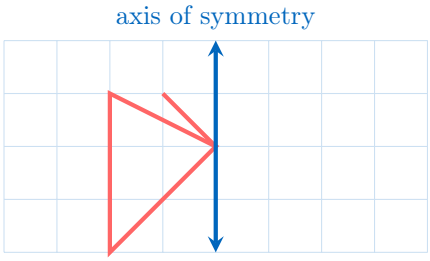
1. **Draw the mirror vertices**: For each vertex, count the squares to the mirror line (left or right). Place a new point on the other side of the line, the same number of squares away.



2. **Draw the mirror figure**: Connect the mirror vertices with lines in the same order as the original figure.

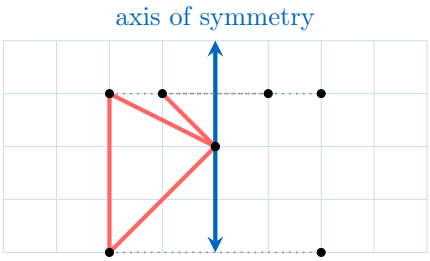


Ex 13: Draw the mirror figure.

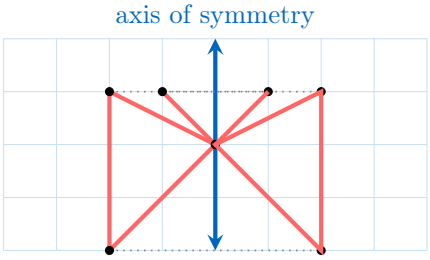


Answer:

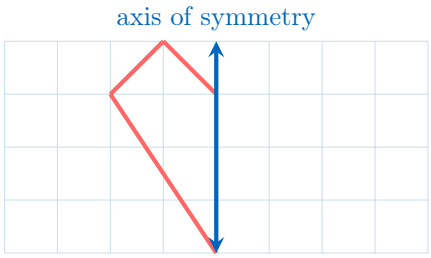
1. **Draw the mirror vertices**: For each vertex, count the squares to the axis of symmetry (left or right). Place a new point on the other side of the line, the same number of squares away.



2. **Draw the mirror figure**: Connect the mirror vertices with lines in the same order as the original figure.

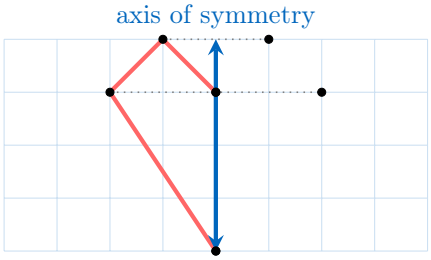


Ex 14: Draw the mirror figure.

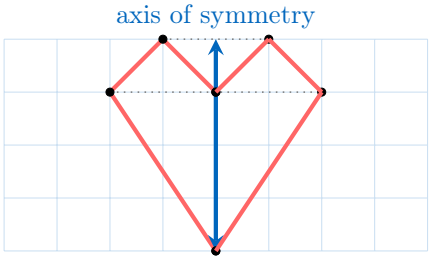


Answer:

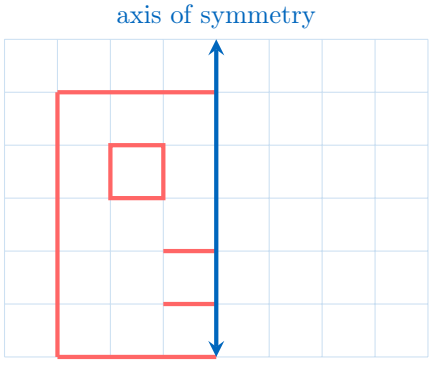
1. **Draw the mirror vertices**: For each vertex, count the squares to the axis of symmetry (left or right). Place a new point on the other side of the line, the same number of squares away.



2. **Draw the mirror figure**: Connect the mirror vertices with lines in the same order as the original figure.

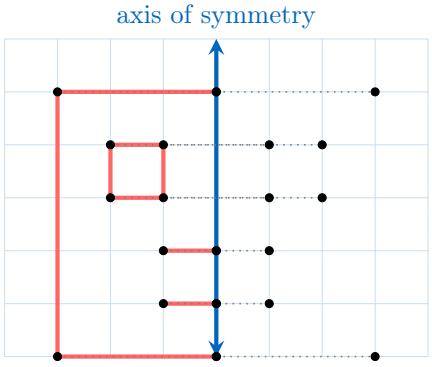


Ex 15: Draw the mirror figure.

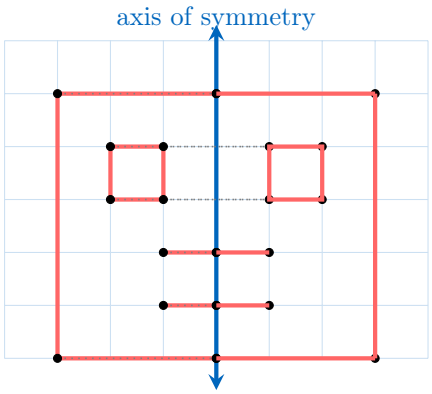


Answer:

1. **Draw the mirror vertices**: For each vertex, count the squares to the axis of symmetry (left or right). Place a new point on the other side of the line, the same number of squares away.

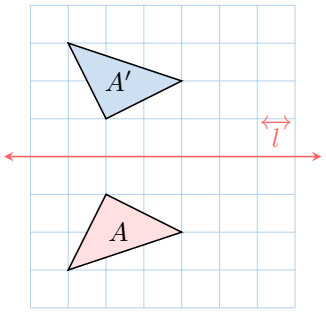


2. **Draw the mirror figure**: Connect the mirror vertices with lines in the same order as the original figure.



A.4 IDENTIFYING REFLECTIONS

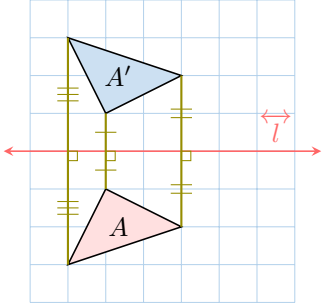
MCQ 16: Is A' the image of A under the reflection over line $\overleftrightarrow{l}$?



☒ Yes

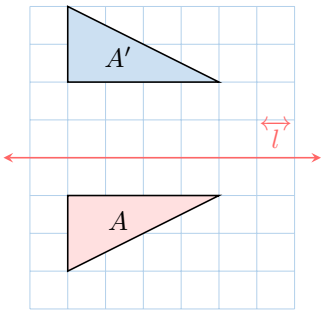
☐ No

Answer:



Yes

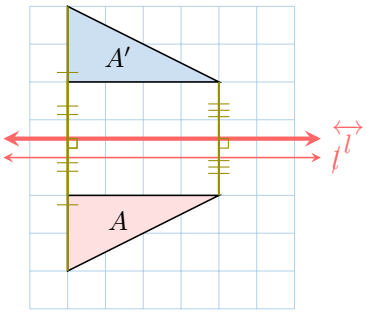
MCQ 17: Is A' the image of A under the reflection over line $\overleftrightarrow{l}$?



☐ Oui

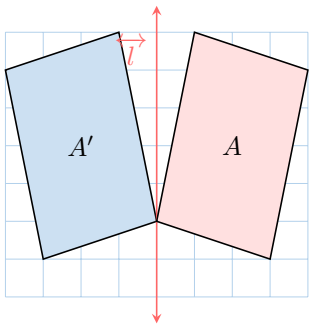
☒ Non

Answer: No, the mirror line is misplaced. Here is where it should be.



Non, l'axe de symmétrie est mal placée. Voici où il devrait être

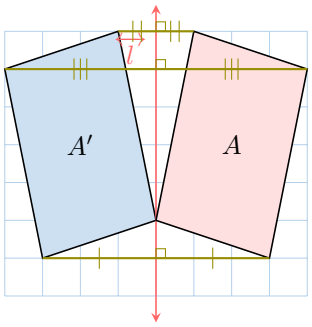
MCQ 18: Is A' the image of A under the reflection over line $\overleftrightarrow{l}$?



☒ Yes

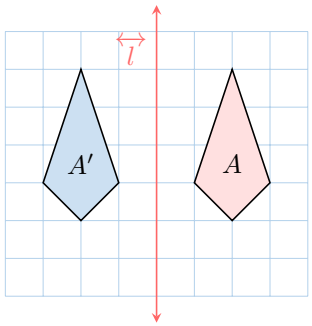
☐ No

Answer:



Yes

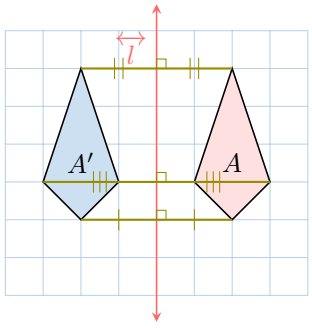
MCQ 19: Is A' the image of A under the reflection over line $\overleftrightarrow{l}$?



☒ Yes

☐ No

Answer:

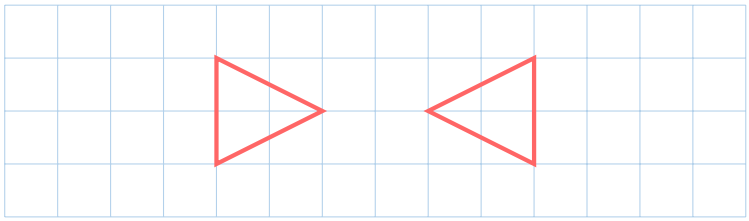


Yes

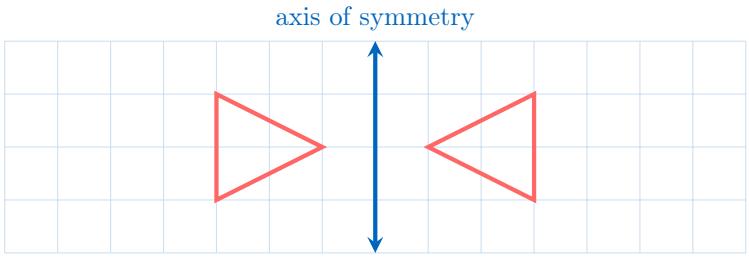
B AXIS OF SYMMETRY

B.1 DRAWING THE AXIS OF SYMMETRY

Ex 20: Draw the axis of symmetry.

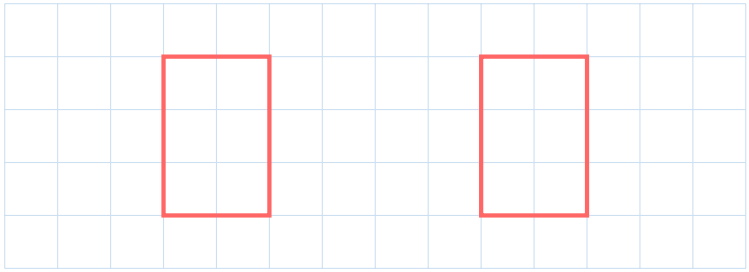


Answer: The axis of symmetry is a vertical line where the triangles are mirror images of each other.

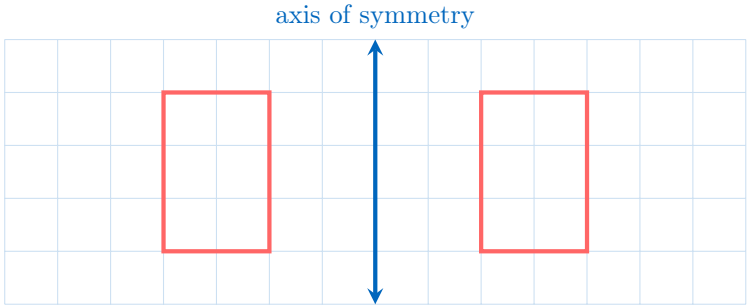


If you fold the paper along this axis of symmetry, the triangles match perfectly.

Ex 21: Draw the axis of symmetry.

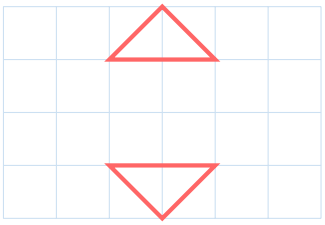


Answer: The axis of symmetry is a vertical line where the rectangles are mirror images of each other. It goes between the rectangles.

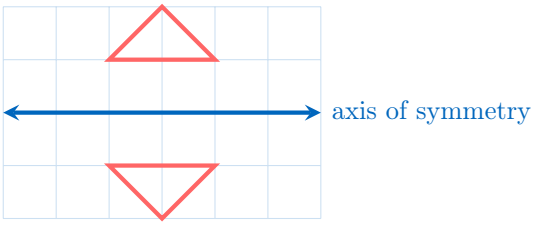


If you fold the paper along this axis of symmetry, the rectangles match perfectly.

Ex 22: Draw the axis of symmetry.

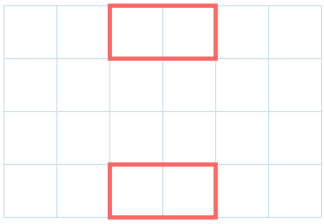


Answer: The axis of symmetry is a horizontal line where the triangles are mirror images of each other.

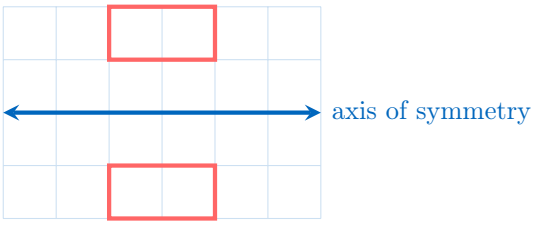


If you fold the paper along this axis of symmetry, the triangles match perfectly.

Ex 23: Draw the axis of symmetry.



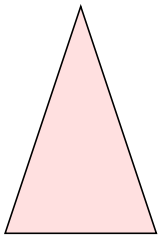
Answer: The axis of symmetry is a horizontal line where the rectangles are mirror images of each other.



If you fold the paper along this axis of symmetry, the rectangles match perfectly.

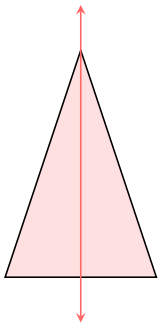
B.2 COUNTING AXES OF SYMMETRY

Ex 24: Count the number of axes of symmetry for the isosceles triangle shown below.



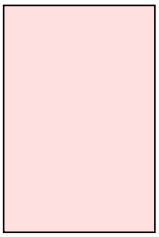
1 axis of symmetry

Answer:



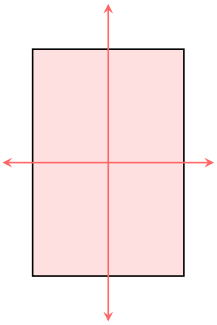
The isosceles triangle has 1 axis of symmetry.

Ex 25: Count the number of axes of symmetry for the rectangle shown below.



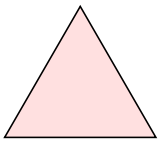
2 axes of symmetry

Answer:



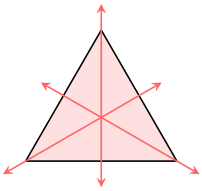
The rectangle has 2 axes of symmetry.

Ex 26: Count the number of axes of symmetry for the equilateral triangle shown below.



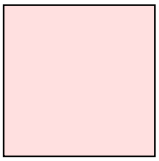
3 axes of symmetry

Answer:



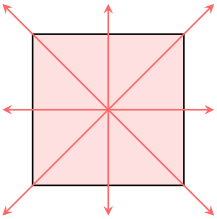
The equilateral triangle has 3 axes of symmetry.

Ex 27: Count the number of axes of symmetry for the square shown below.



4 axes of symmetry

Answer:



The square has 4 axes of symmetry.