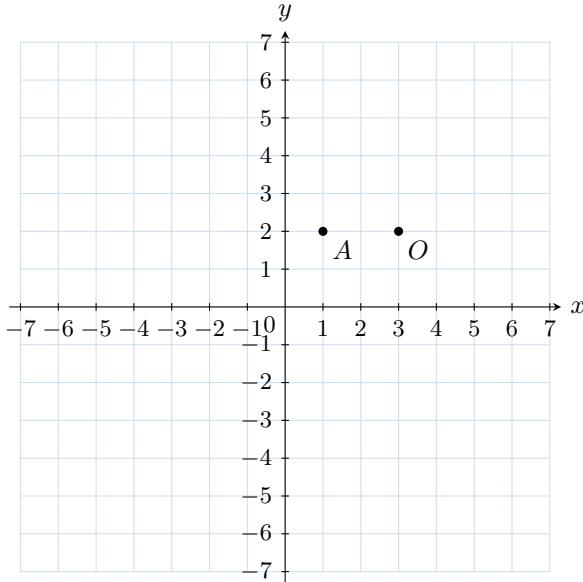


POINT REFLECTION

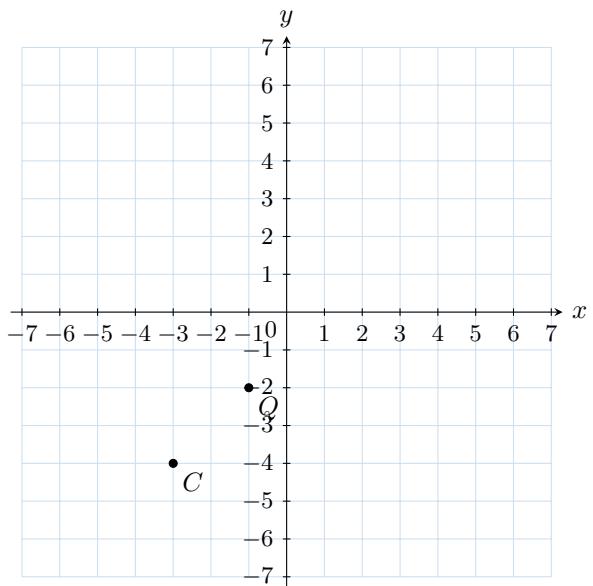
A DEFINITIONS

A.1 FINDING IMAGES OF POINTS

Ex 1: Find the coordinates of the image of point A under a point reflection over point O .

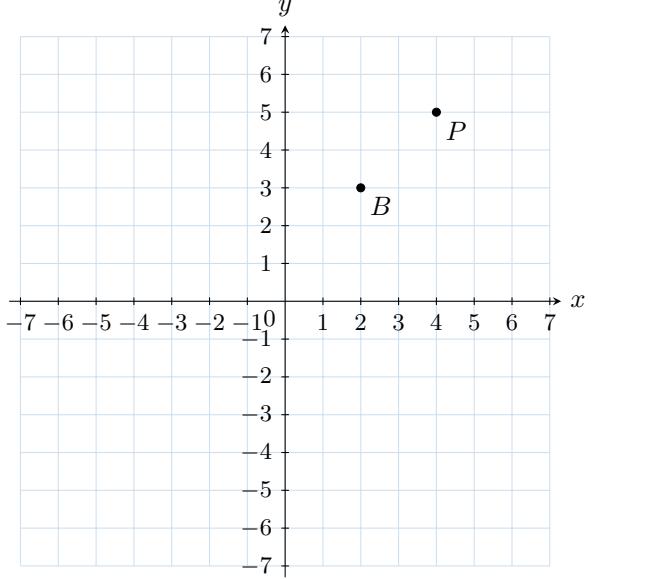


$$A'(\boxed{\quad}, \boxed{\quad})$$

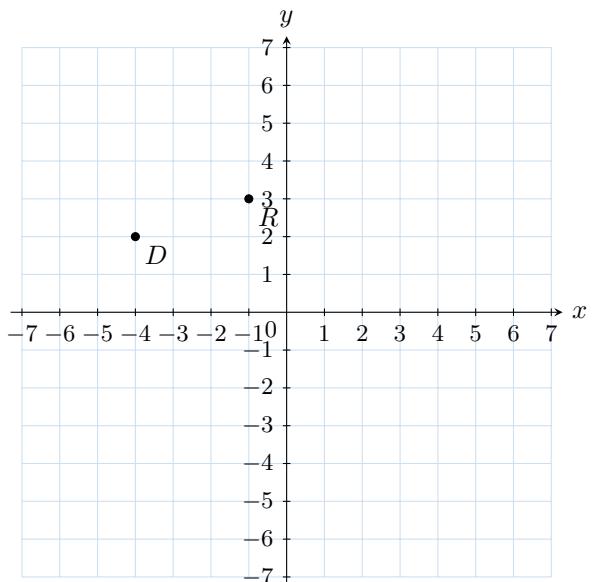


$$C'(\boxed{\quad}, \boxed{\quad})$$

Ex 4: Find the coordinates of the image of point D under a point reflection over point R .



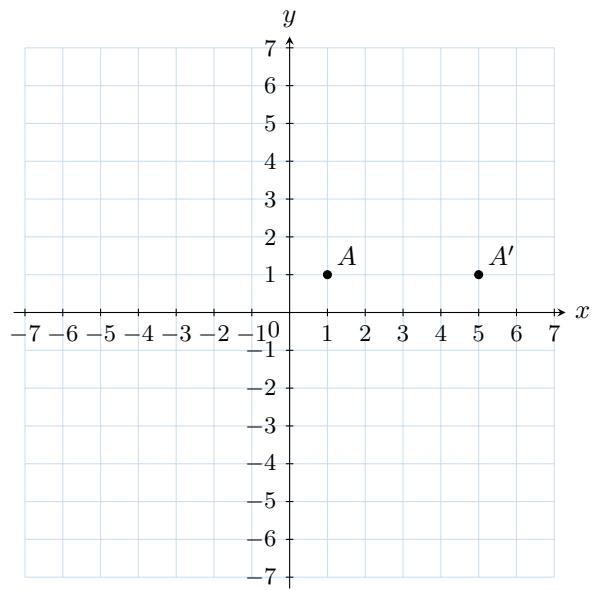
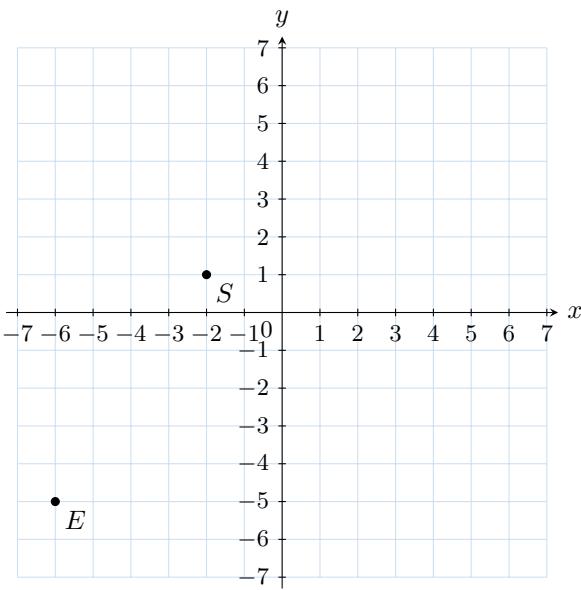
$$B'(\boxed{\quad}, \boxed{\quad})$$



$$D'(\boxed{\quad}, \boxed{\quad})$$

Ex 3: Find the coordinates of the image of point C under a point reflection over point Q .

Ex 5: Find the coordinates of the image of point E under a point reflection over point S .

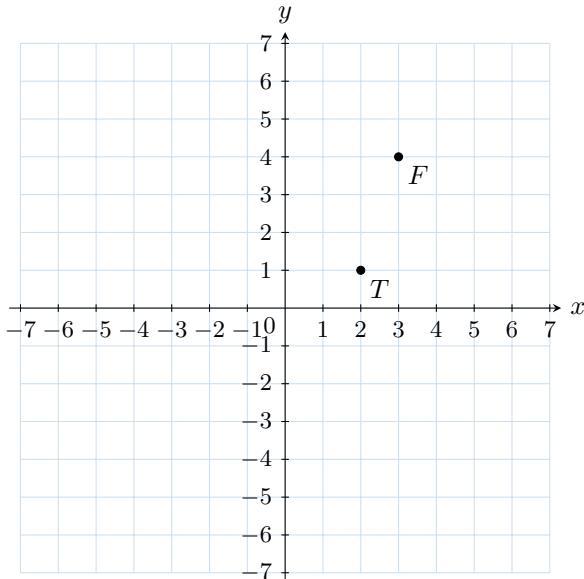


Find the coordinates of the point O

$$E'(\boxed{\quad}, \boxed{\quad})$$

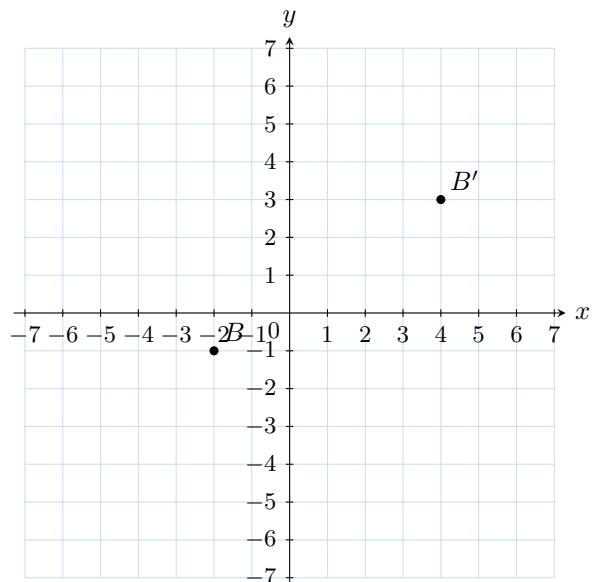
$$O(\boxed{\quad}, \boxed{\quad})$$

Ex 6: Find the coordinates of the image of point F under a point reflection over point T .



$$F'(\boxed{\quad}, \boxed{\quad})$$

Ex 8: The point B' is the image of point B under a point reflection over point P .



Find the coordinates of the point P

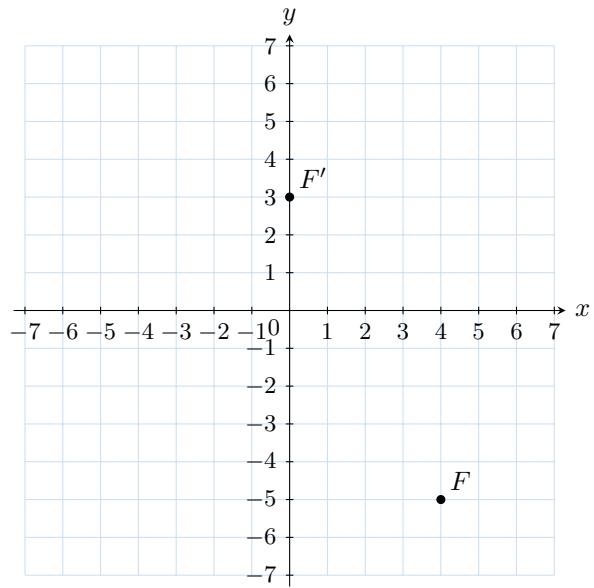
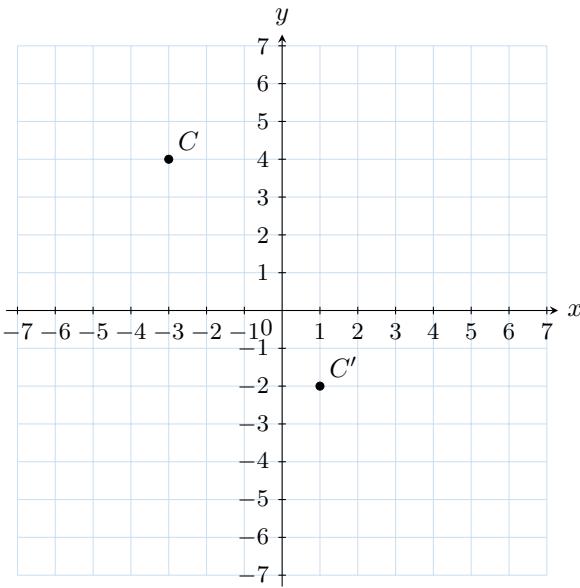
A.2 FINDING THE COORDINATES OF THE CENTER OF SYMMETRY

Ex 7: The point A' is the image of point A under a point reflection over point O .

Ex 9: The point C' is the image of point C under a point reflection over point Q .

$$P(\boxed{\quad}, \boxed{\quad})$$





Find the coordinates of the point Q

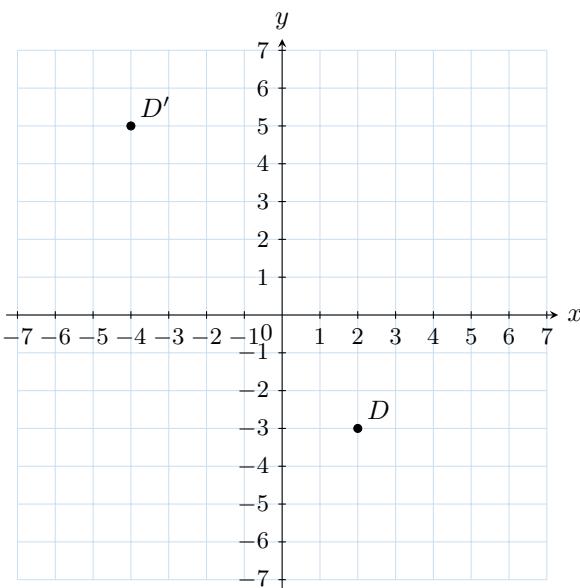
$$Q(\boxed{\quad}, \boxed{\quad})$$

Find the coordinates of the point S

$$S(\boxed{\quad}, \boxed{\quad})$$

A.3 REFLECTIONS OF FIGURES

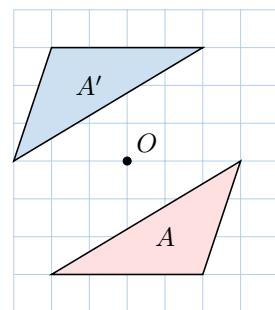
Ex 10: The point D' is the image of point D under a point reflection over point R .



Find the coordinates of the point R

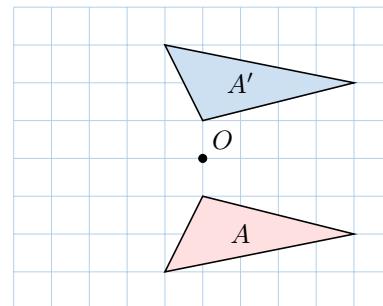
$$R(\boxed{\quad}, \boxed{\quad})$$

MCQ 12: Is the figure A' the image of figure A under the point reflection over point O ?



- Yes
- No

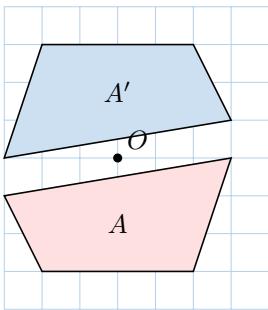
MCQ 13: Is the figure A' the image of figure A under the point reflection over point O ?



- Yes
- No

Ex 11: The point F' is the image of point F under a point reflection over point S .

MCQ 14: Is the figure A' the image of figure A under the point reflection over point O ?

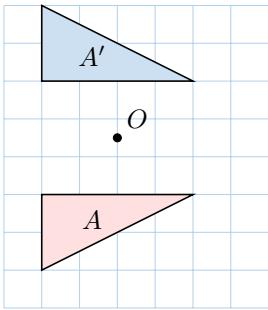


Yes

No

MCQ 15: Is the figure A' the image of figure A under the point reflection over point O ?

Ex 18: Draw the figure A' , the image of figure A under the point reflection over point O .

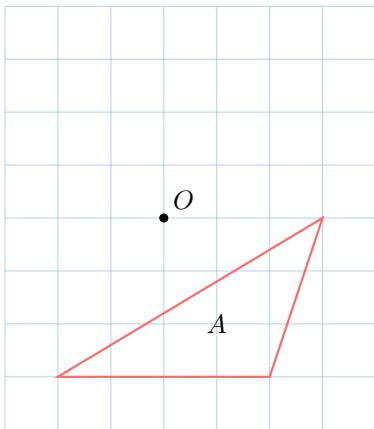


Yes

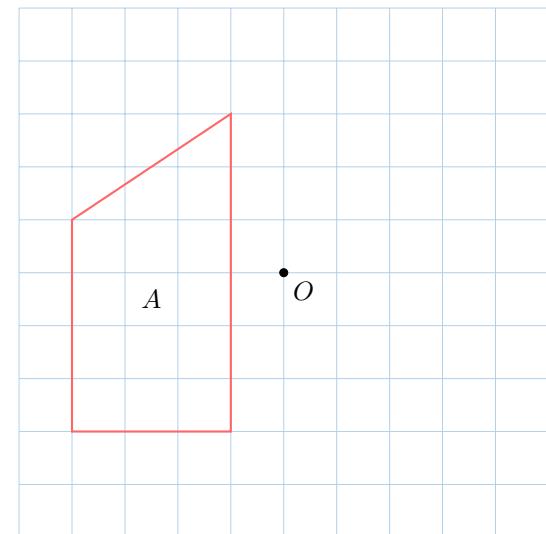
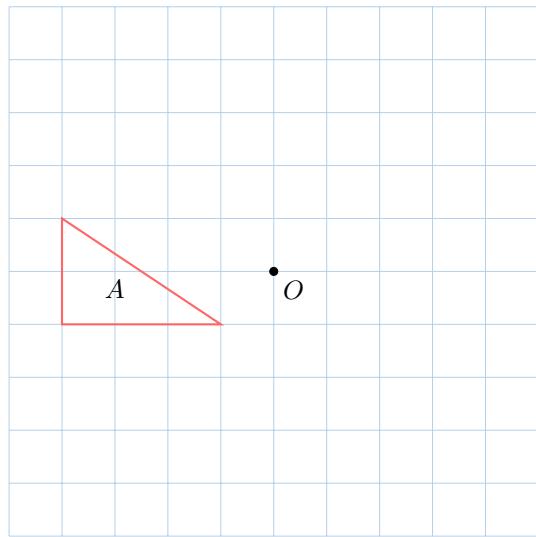
No

A.4 DRAWING IMAGES FIGURES

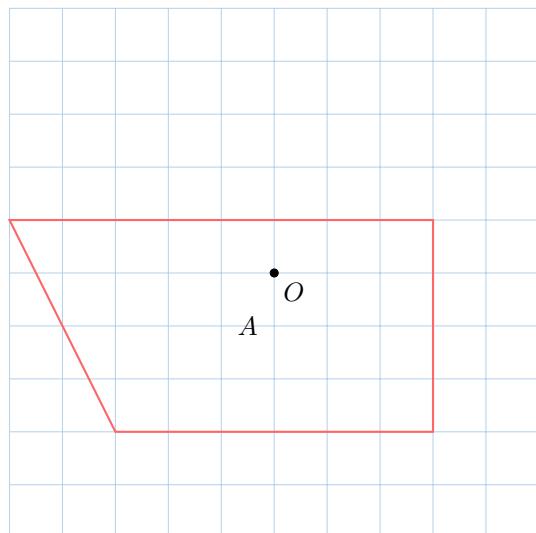
Ex 16: Draw the figure A' , the image of figure A under the point reflection over point O .



Ex 17: Draw the figure A' , the image of figure A under the point reflection over point O .



Ex 19: Draw the figure A' , the image of figure A under the point reflection over point O .



B CENTER OF SYMMETRY

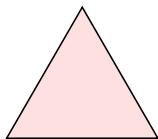
B.1 NUMBER OF CENTERS OF SYMMETRY FOR COMMON SHAPES

Ex 20: Count the number of centers of symmetry for the rectangle.



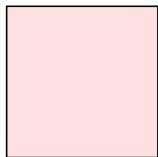
center of symmetry

Ex 21: Count the number of centers of symmetry for the equilateral triangle.



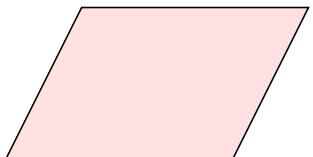
centers of symmetry

Ex 22: Count the number of centers of symmetry for the square.



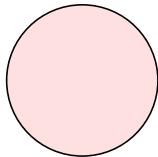
center of symmetry

Ex 23: Count the number of centers of symmetry for the parallelogram.



center of symmetry

Ex 24: Count the number of centers of symmetry for the circle.



center of symmetry