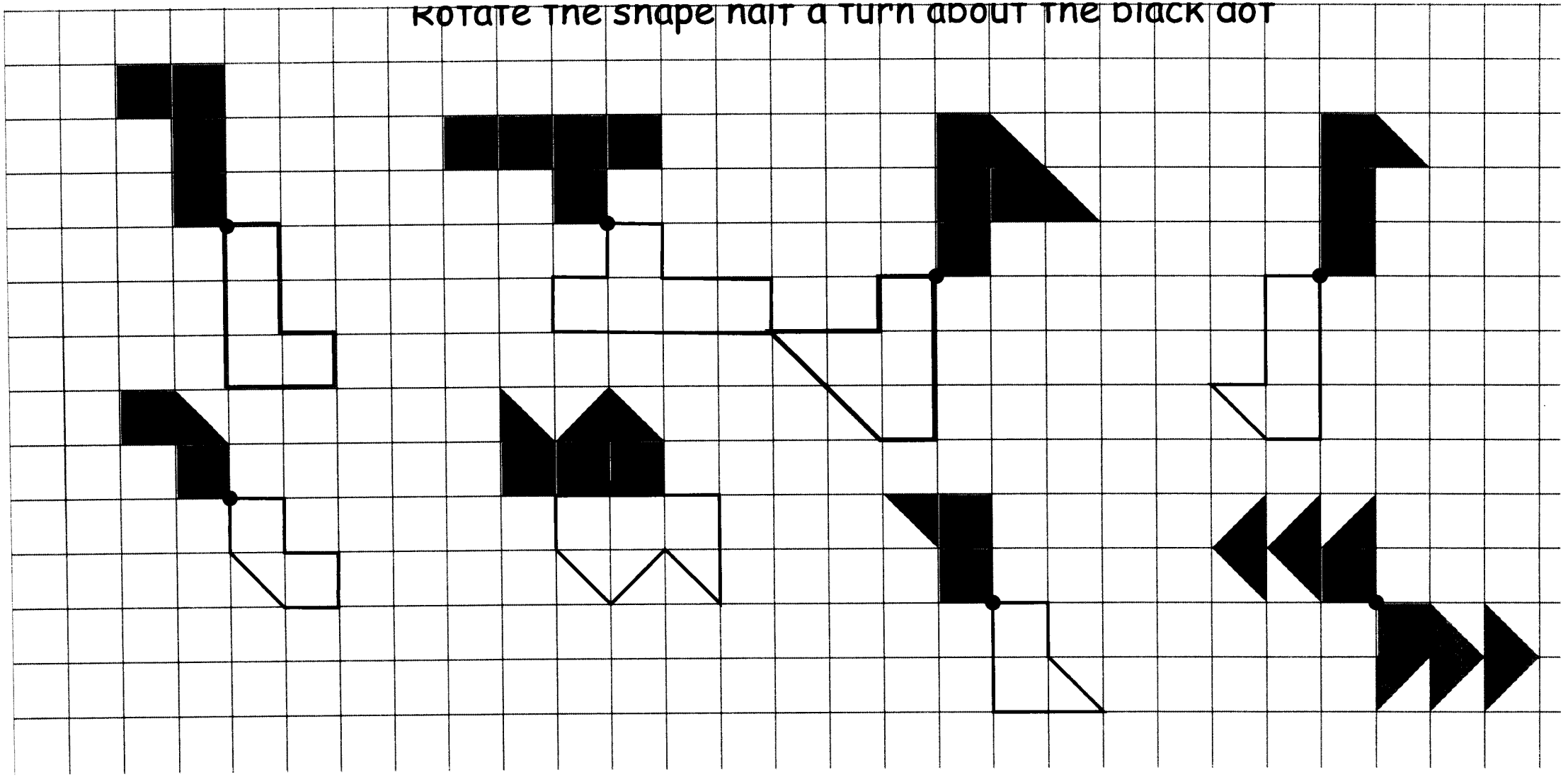
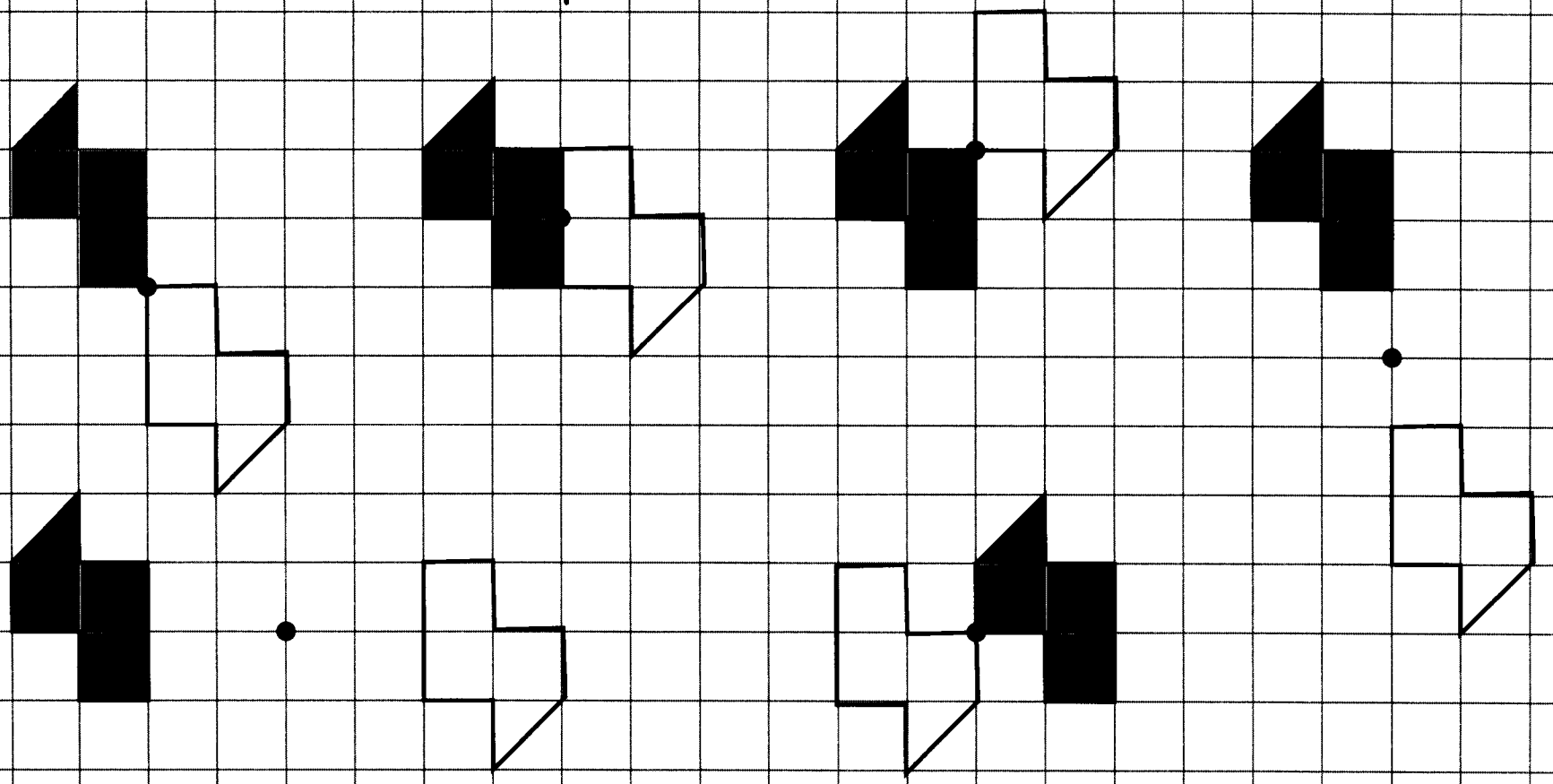
TRANSFORMATIONS

Rotate the shape half a turn about the black dot

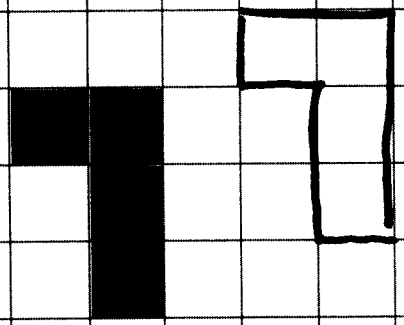


Rotate the shape half a turn about the black dot



Translation Worksheet

$\begin{bmatrix} \text{+ right, - left} \\ \text{+ up, - down} \end{bmatrix}$

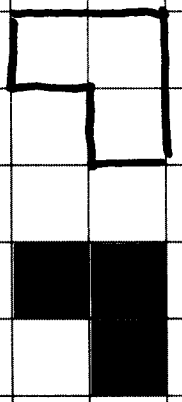


Translate this shape by the vector $\begin{bmatrix} 3 \\ 1 \end{bmatrix}$

blue

red

$\begin{bmatrix} 5 \\ 2 \end{bmatrix}$

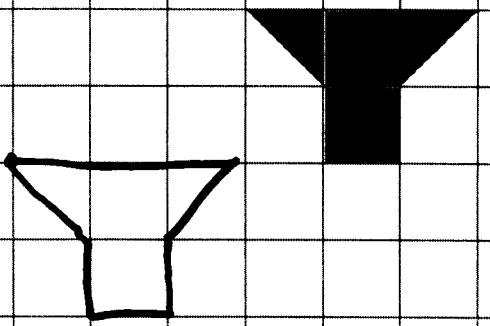


Translate this shape by the vector $\begin{bmatrix} 0 \\ 3 \end{bmatrix}$

red

blue

$\begin{bmatrix} 1 \\ -2 \end{bmatrix}$



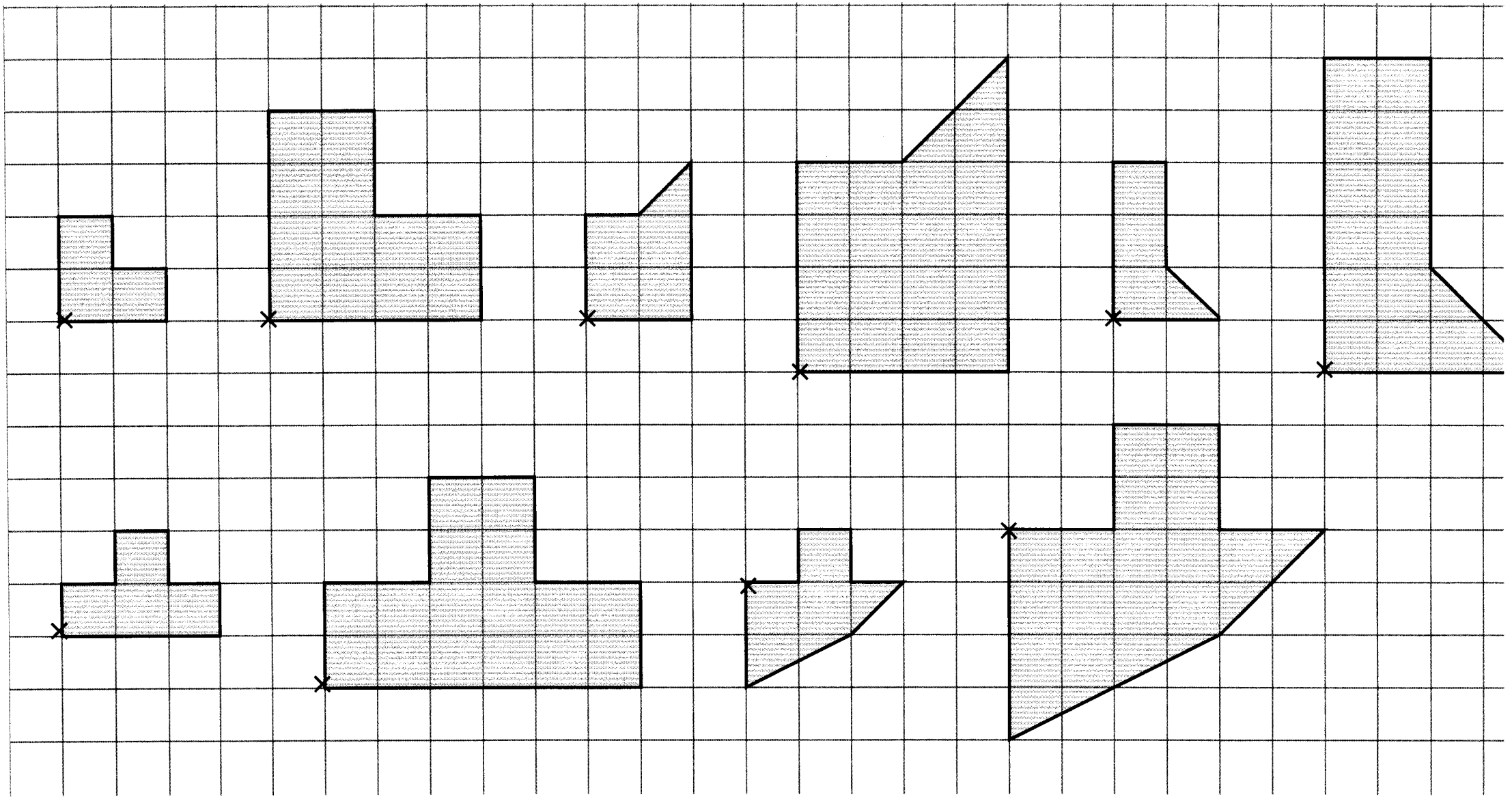
Translate this shape by the vector $\begin{bmatrix} -3 \\ -2 \end{bmatrix}$

red

blue

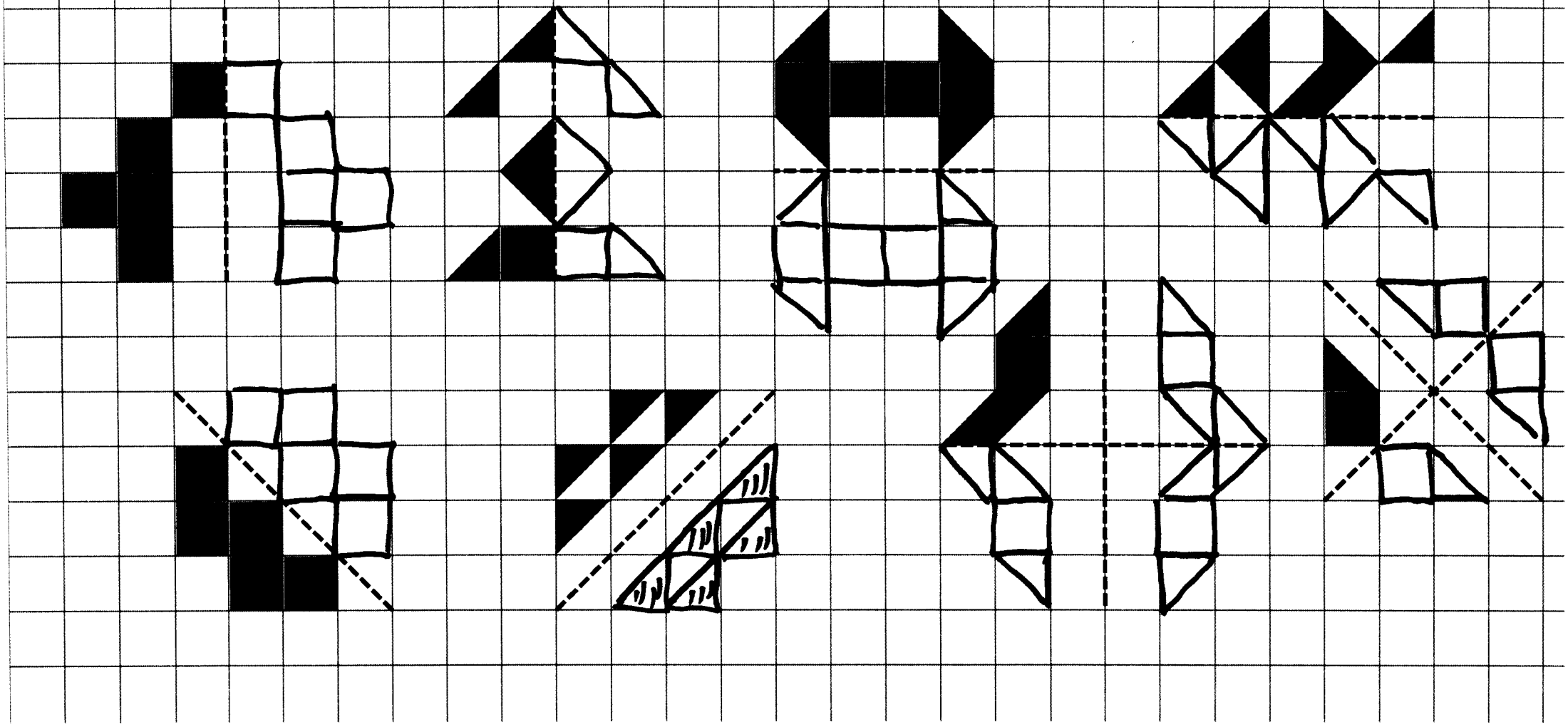
$\begin{bmatrix} -5 \\ -2 \end{bmatrix}$

Colour the red shape red and the blue shape blue. Describe the translation, using a vector, moving from the red shape to the blue shape.

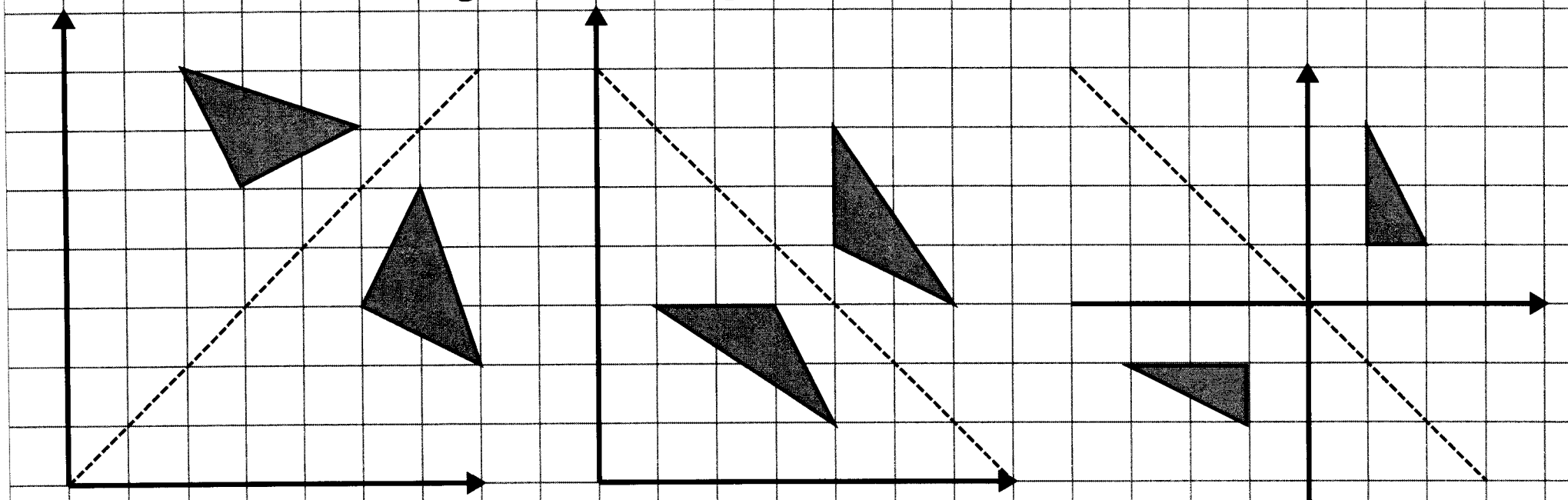


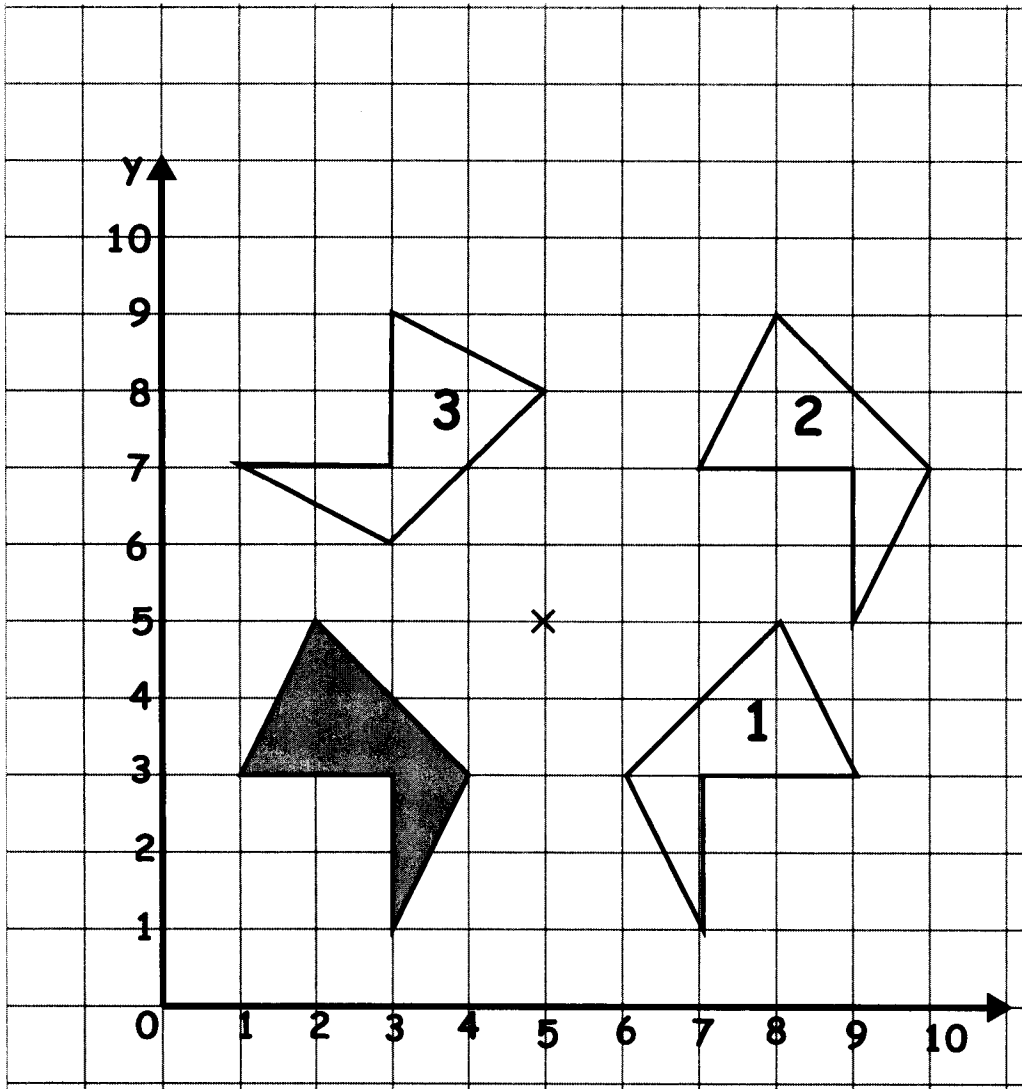
Enlargement - Enlarge each of these shapes by scale factor 2 Start at the "x"

Reflect these shapes in the mirror line



Reflect the triangles in the diagonal mirror lines

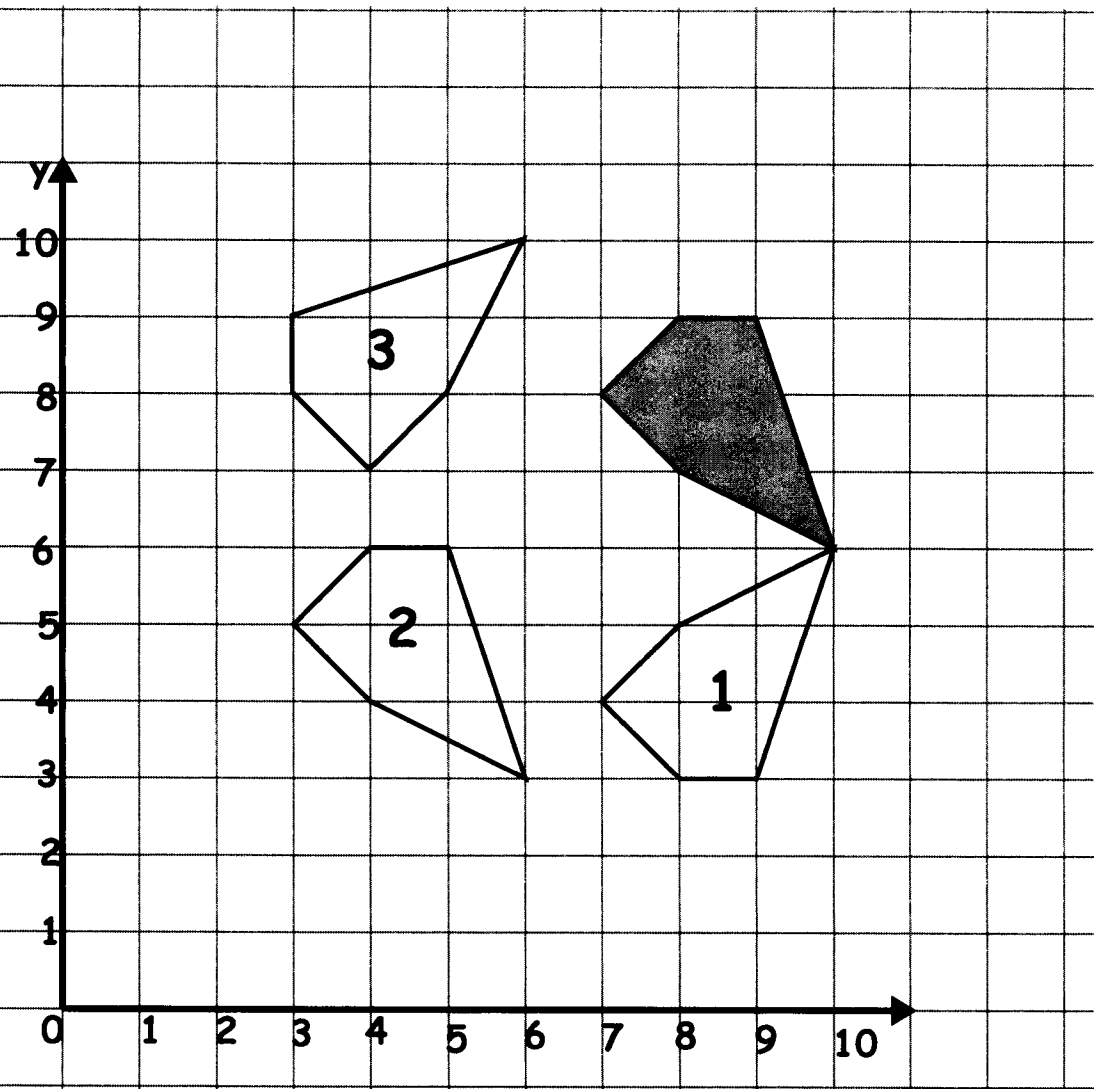




1) Reflect the original shape in x = 5

2) Translate the original shape 6 right, 4 up.

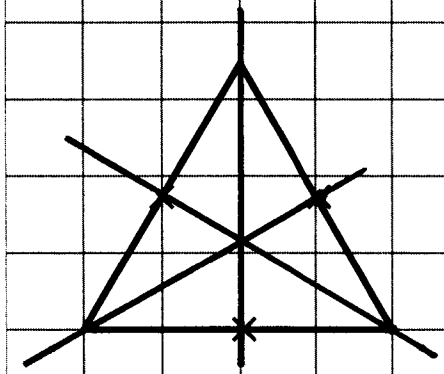
3) Rotate the original shape 90 degrees clockwise about the point (5,5)



1) Reflect the original shape in y = 6

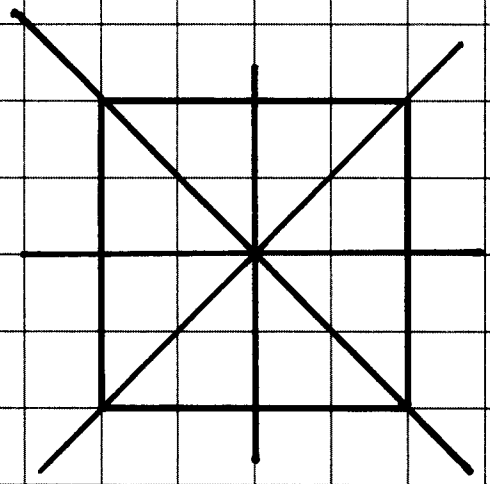
2) Translate the original shape 4 left, 3 down.

3) Rotate the original shape 90 degrees anticlockwise about the point (6,6)



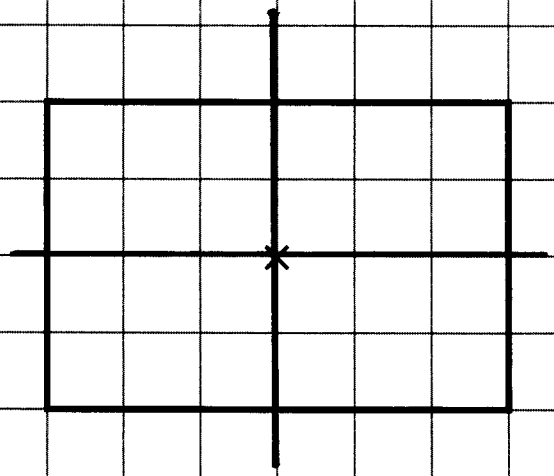
Lines of symmetry = 3

Order of rotational symmetry = 3



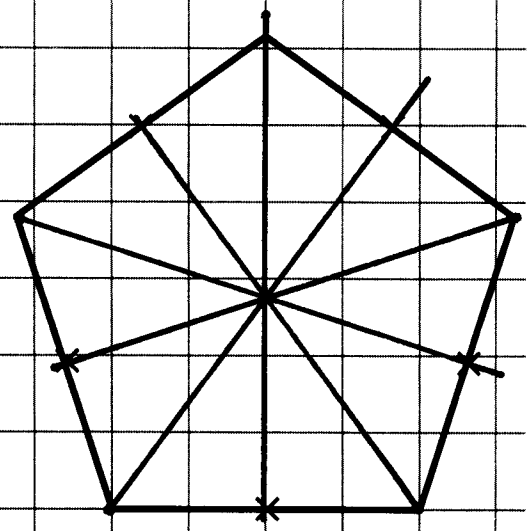
Lines of symmetry = 4

Order of rotational symmetry = 4



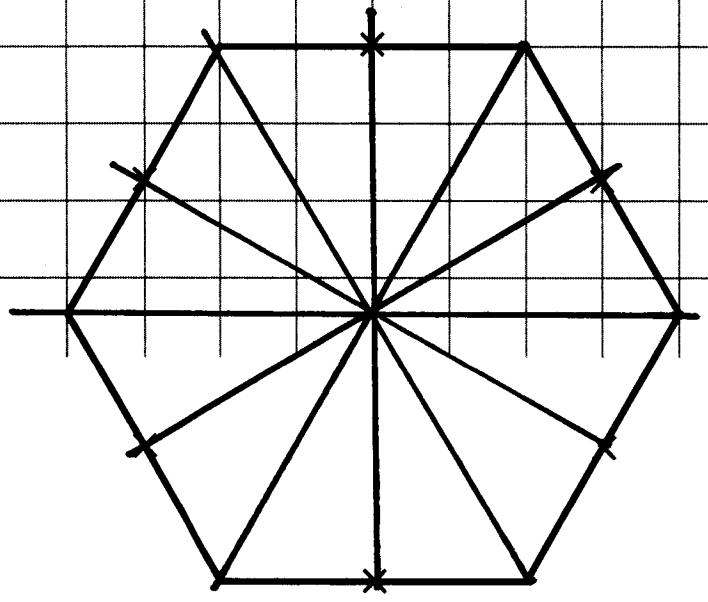
Lines of symmetry = 2

Order of rotational symmetry = 2



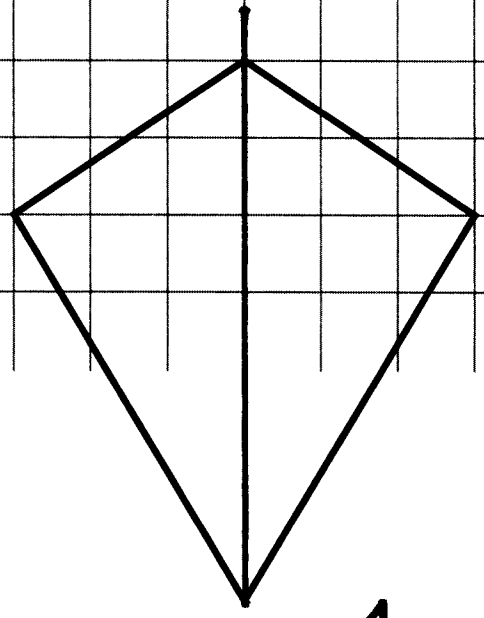
Lines of symmetry = 5

Order of rotational symmetry = 5



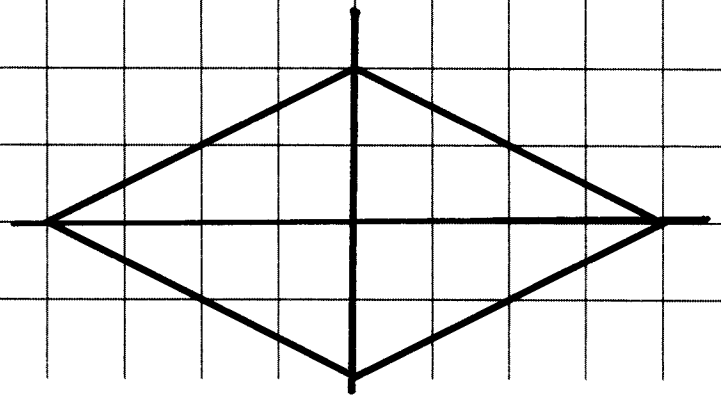
Lines of symmetry = 6

Order of rotational symmetry = 6



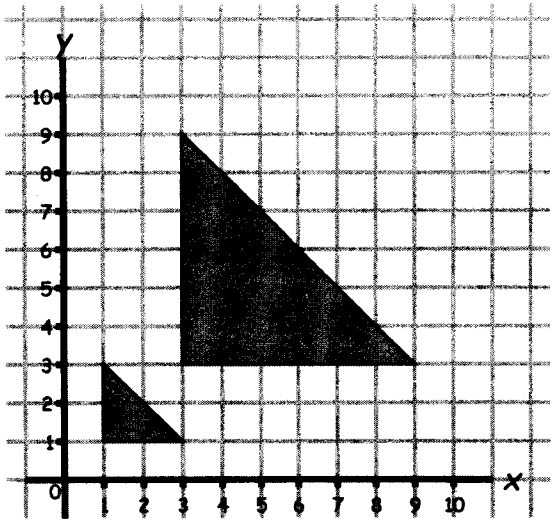
Lines of symmetry = 1

Order of rotational symmetry = 1



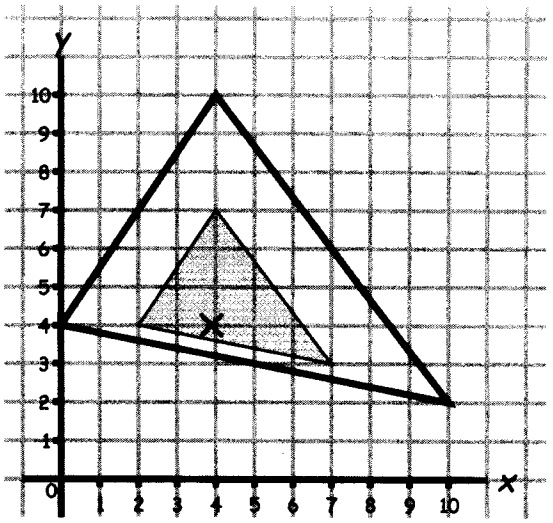
Lines of symmetry = 2

Order of rotational symmetry = 2



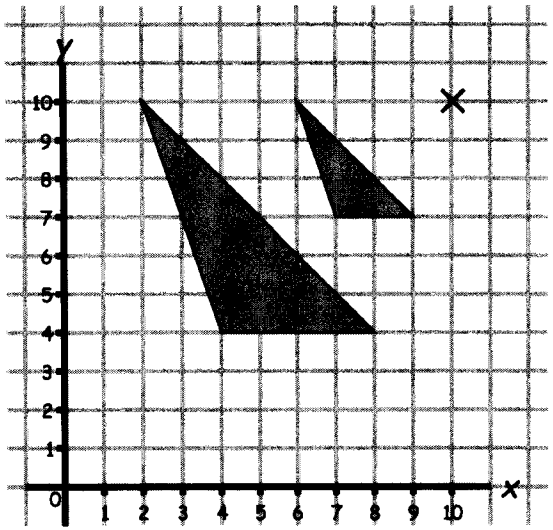
Plot the points (1,1) (3,1) and (1,3). Join them to make triangle.

Enlarge this triangle by a scale factor 3, centre of enlargement (0,0)



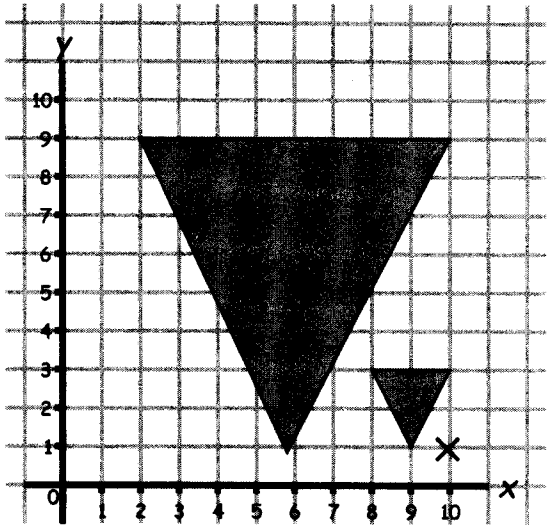
Plot the points (2,4) (7,3) and (4,7). Join them to make triangle.

Enlarge this triangle by a scale factor 2, centre of enlargement (4,4)



Plot the points (6,10) (9,7) and (7,7). Join them to make triangle.

Enlarge this triangle by a scale factor 2, centre of enlargement (10,10)



Plot the points (9,1) (10,3) and (8,3). Join them to make triangle.

Enlarge this triangle by a scale factor 4, centre of enlargement (10,1)