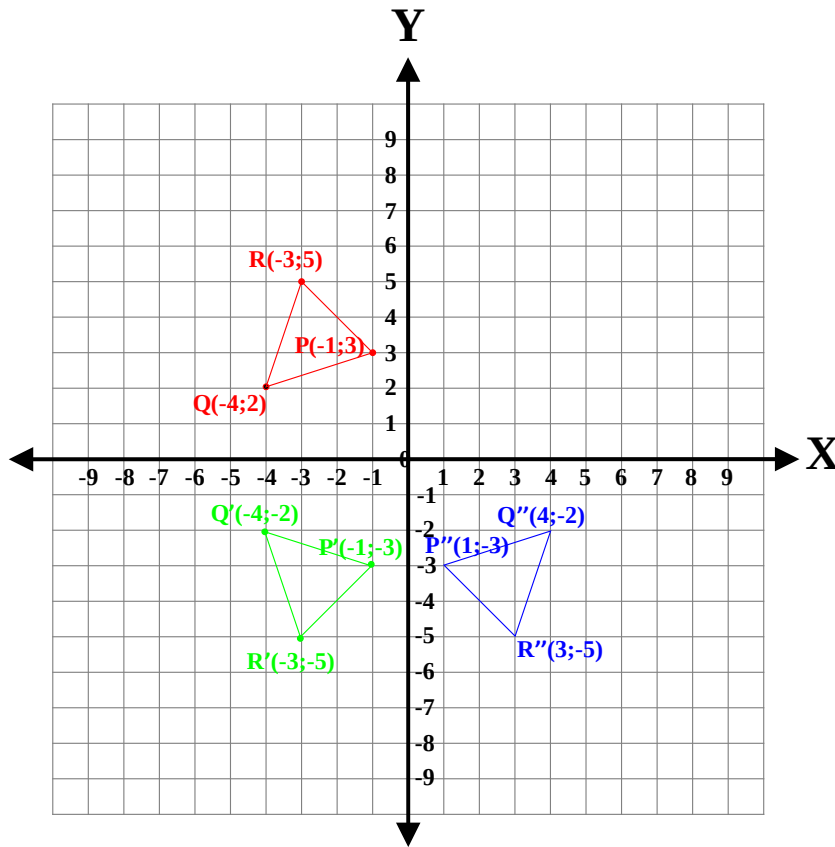


- (1) (a) Draw $\triangle PQR$ with $P(-1;3)$, $Q(-4;2)$ and $R(-3;5)$.



- (b) Draw the image of $\triangle PQR \rightarrow \triangle P'Q'R'$ as a reflection in the x -axis.
Write the coordinates of:

$P'(-1; -3)$; $Q'(-4; -2)$ and $R'(-3; -5)$

- (c) Draw the image of $\triangle P'Q'R' \rightarrow \triangle P''Q''R''$ as a reflection in the y -axis.
Write the coordinates of:

$P''(1; -3)$; $Q''(4; -2)$ and $R''(3; -5)$

- (d) Describe the transformation: $\triangle PQR \rightarrow \triangle P''Q''R''$:

Rotation of 180°

(2) K(0 ; 3), L(1 ; 5) and M(3 ; 2) are the vertices of Δ KLM.

Write the coordinates of the images of Δ KLM as a:

(a) reflection in the x -axis.

K'(0 ; -3) ; L'(1 ; -5) and M'(3 ; -2)

(b) rotation 90° anti-clockwise with the origin as rotation centre.

K'(-3 ; 0) ; L'(-5 ; 1) and M'(-2 ; 3)

(c) translation of $(x + 1 ; y - 3)$.

K'(1 ; 0) ; L'(2 ; 2) and M'(1 ; -1)

(d) reflection in the line $x = y$.

K'(3 ; 0) ; L'(5 ; 1) and M'(2 ; 3)

(3) Describe the following transformation in full:

(a) $(4 ; 1) \rightarrow (-3 ; -1)$

Translation of $(x - 7 ; y - 2)$.

(b) $(3 ; 4) \rightarrow (9 ; 12)$

Enlargement with factor 3.

(c) $(-8 ; -2) \rightarrow (8 ; 2)$

Rotation of 180° .

(d) $(-4 ; 4) \rightarrow (4 ; 4)$

Reflection in the y -axis.

(e) $(4 ; 2) \rightarrow (2 ; 4)$

Reflection in the line $x = y$.

(f) $(3 ; -5) \rightarrow (3 ; 5)$

Reflection in the x -axis.