

Exercise 2019-9ER-00001(1)

- (1) (a) Draw ΔPQR with $P(-1 ; 3)$, $Q(-4 ; 2)$ and $R(-3 ; 5)$.
(b) Draw the image of $\Delta PQR \rightarrow \Delta P'Q'R'$ as a reflection in the x -axis.
Write the coordinates of:

P' ; Q' and R'

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

P'' ; Q'' and R''

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

- (2) $K(0 ; 3)$, $L(1 ; 5)$ and $M(3 ; 2)$ are the vertices of ΔKLM .
Write the coordinates of the images of ΔKLM as a:

- (a) reflection in the x -axis.
(b) rotation 90° anti-clockwise with the origin as rotation centre.
(c) translation of $(x + 1 ; y - 3)$.
(d) reflection in the line $x = y$.

- (3) Describe the following transformation in full:

- (a) $(4 ; 1) \rightarrow (-3 ; -1)$
(b) $(3 ; 4) \rightarrow (9 ; 12)$
(c) $(-8 ; -2) \rightarrow (8 ; 2)$
(d) $(-4 ; 4) \rightarrow (4 ; 4)$
(e) $(4 ; 2) \rightarrow (2 ; 4)$
(f) $(3 ; -5) \rightarrow (3 ; 5)$