



COORDINATE GEOMETRY Graph each figure and its image under the given translation.

- \overline{PQ} with endpoints $P(2, -4)$ and $Q(4, 2)$ under the translation left 3 units and up 4 units
- \overline{AB} with endpoints $A(-3, 7)$ and $B(-6, -6)$ under the translation 4 units to the right and down 2 units
- $\triangle MJP$ with vertices $M(-2, -2)$, $J(-5, 2)$, and $P(0, 4)$ under the translation $(x, y) \rightarrow (x + 1, y + 4)$
- $\triangle EFG$ with vertices $E(0, -4)$, $F(-4, -4)$, and $G(0, 2)$ under the translation $(x, y) \rightarrow (x + 2, y - 1)$
- quadrilateral $PQRS$ with vertices $P(1, 4)$, $Q(-1, 4)$, $R(-2, -4)$, and $S(2, -4)$ under the translation $(x, y) \rightarrow (x - 5, y + 3)$
- pentagon $VWXYZ$ with vertices $V(-3, 0)$, $W(-3, 2)$, $X(-2, 3)$, $Y(0, 2)$, and $Z(-1, 0)$ under the translation $(x, y) \rightarrow (x + 4, y - 3)$

$\triangle PQR$ with vertices $P(-3, -2)$, $Q(-1, 4)$, and $R(2, -2)$ under the translation $(x, y) \rightarrow (x + 2, y - 4)$

$\triangle RST$ with vertices $R(-4, -1)$, $S(-1, 3)$, and $T(-1, 1)$ reflected in $y = 2$ and then reflected in $y = -2$

Under $(x, y) \rightarrow (x - 4, y + 5)$, $\triangle ABC$ has translated vertices $A'(-8, 5)$, $B'(2, 7)$, and $C'(3, 1)$. Find the coordinates of A , B , and C .

Triangle FGH is translated to $\triangle MNP$. Given $F(3, 9)$, $G(-1, 4)$, $M(4, 2)$, and $P(6, -3)$, find the coordinates of H and N . Then write the coordinate form of the translation.

Triangle XYZ with vertices $X(5, 4)$, $Y(3, -1)$, and $Z(0, 2)$ is translated so that X' is at $(3, 1)$. State the coordinates of Y' and Z' .

- (A) $Y'(5, 2)$ and $Z'(2, 5)$
- (B) $Y'(0, -3)$ and $Z'(-3, 0)$
- (C) $Y'(1, -4)$ and $Z'(-2, -1)$
- (D) $Y'(11, 4)$ and $Z'(8, 6)$