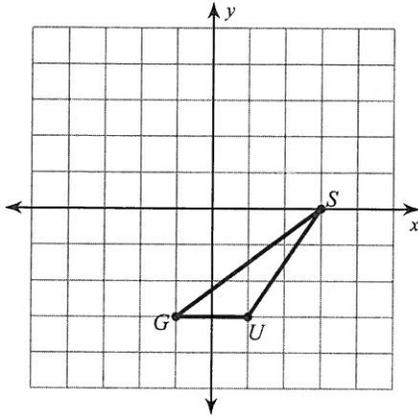


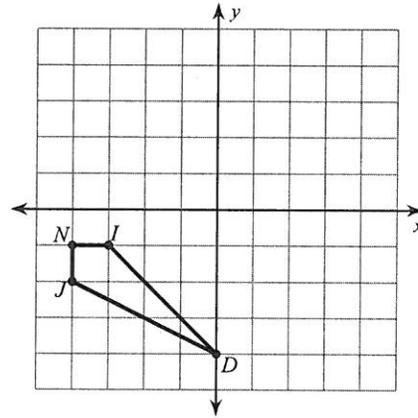
Translations

Graph the image of the figure using the transformation given.

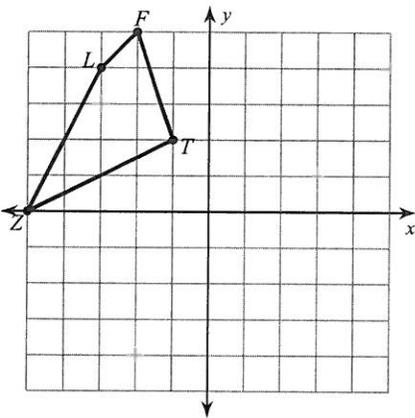
1) translation: 3 units left and 2 units up



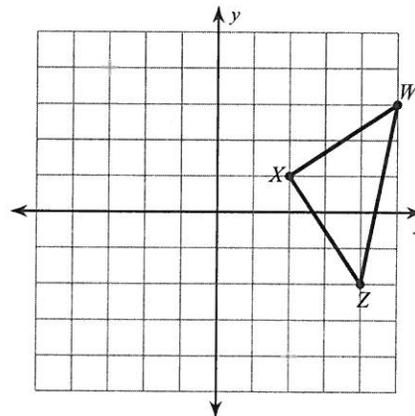
2) translation: 4 units right and 1 unit up



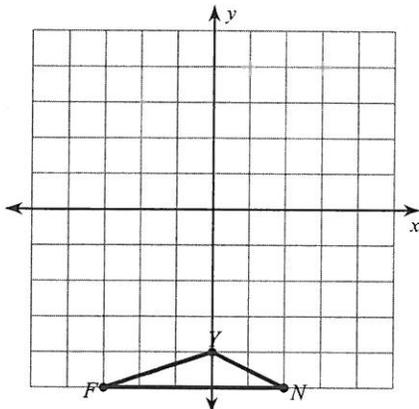
3) translation: 2 units right and 1 unit down



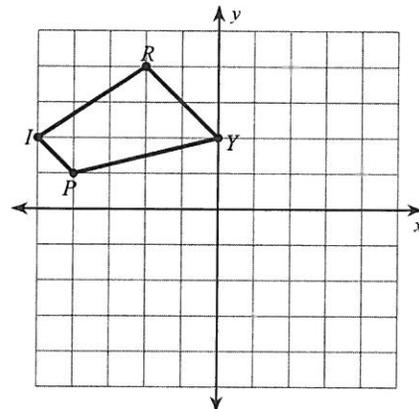
4) translation: 4 units left and 2 units down



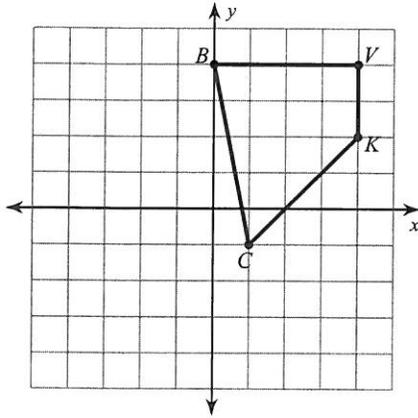
5) translation: $(x, y) \rightarrow (x, y + 5)$



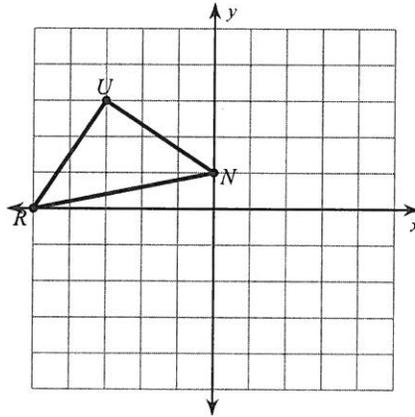
6) translation: $(x, y) \rightarrow (x + 5, y)$



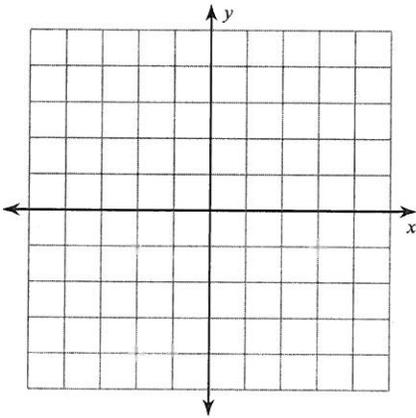
7) translation: $(x, y) \rightarrow (x - 4, y - 3)$



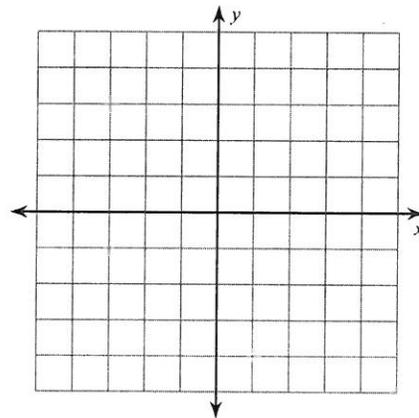
8) translation: $(x, y) \rightarrow (x + 2, y - 2)$



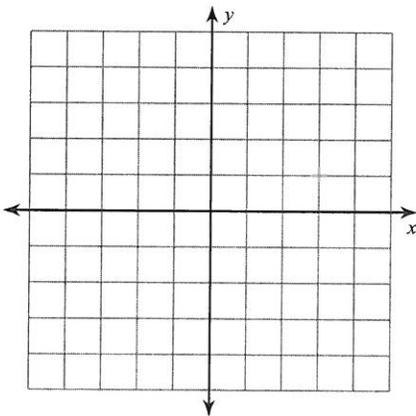
9) translation: $(x, y) \rightarrow (x, y - 5)$
 $J(1, 2), H(5, 5), M(4, 2)$



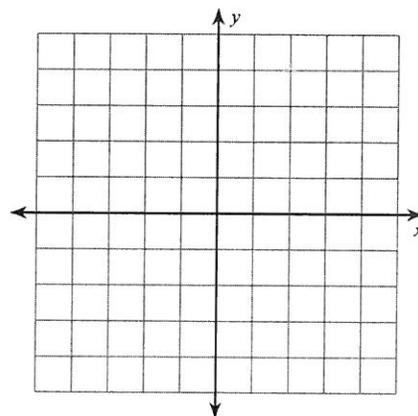
10) translation: $(x, y) \rightarrow (x - 2, y + 3)$
 $U(-3, -3), Z(-3, 2), M(0, 0), R(0, -1)$



11) translation: $(x, y) \rightarrow (x - 2, y - 1)$
 $G(2, -1), H(4, 1), I(5, -4)$



12) translation: $(x, y) \rightarrow (x + 2, y)$
 $I(-4, -4), B(-3, -2), U(1, -3)$



Find the coordinates of the vertices of each figure after the given transformation.

13) translation: $(x, y) \rightarrow (x + 2, y)$
 $Q(-3, -5), S(-3, -3), I(0, -5)$

14) translation: $(x, y) \rightarrow (x + 1, y + 6)$
 $I(0, -4), T(-1, -1), R(3, -3)$

15) translation: $(x, y) \rightarrow (x + 4, y - 5)$
 $W(-4, 1), V(-1, 4), R(1, 3)$

16) translation: $(x, y) \rightarrow (x - 1, y - 5)$
 $S(1, 0), P(0, 2), H(1, 3), V(4, 1)$