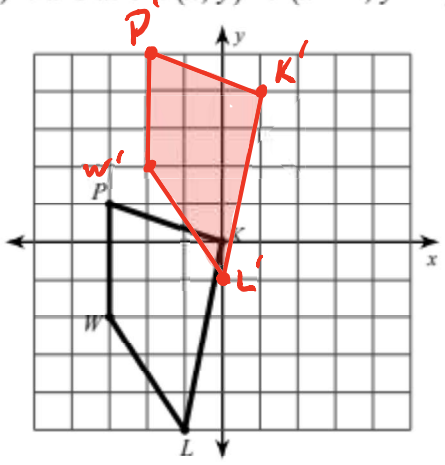
Transformations – Translations

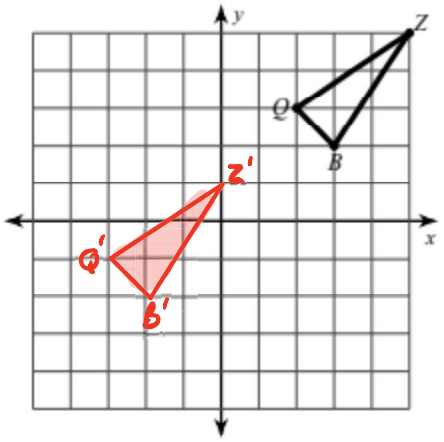
G.CO.A.5 Hw Section 20.1 Name_____

Graph and label the image of the figure using the transformation given.

1) translation: $(x, y) \rightarrow (x + 1, y + 4)$



2) translation: $\langle -5, -4 \rangle$



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

3) translation: 2 units left and 3 units up
$A(4, -5), S(3, -2), E(5, -5)$ $\langle -2, 3 \rangle$

$A'(2, -2), S'(1, 1), E'(3, -2)$

4) translation: 1 unit left and 1 unit up
$D(-4, 0), J(0, 3), H(-1, -1)$ $(-1, 1)$

$D'(-5, 1), J'(-1, 4), H'(-2, 0)$

5) translation: 3 units up $\langle 0, 3 \rangle$
$U(4, -3), P(3, 1), S(5, 1)$

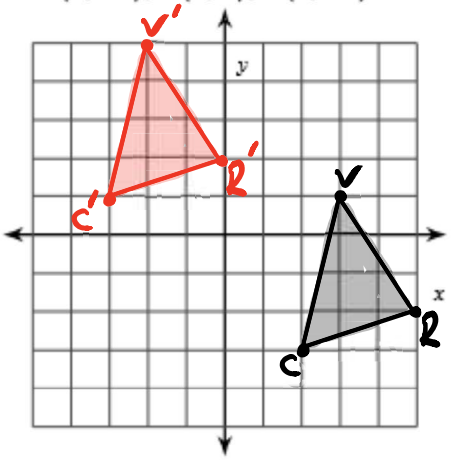
$U'(4, 0), P'(3, 4), S(5, 4)$

6) translation: 1 unit right and 2 units down
$C(-1, -3), W(2, -2), N(4, -3)$ $\langle 1, -2 \rangle$

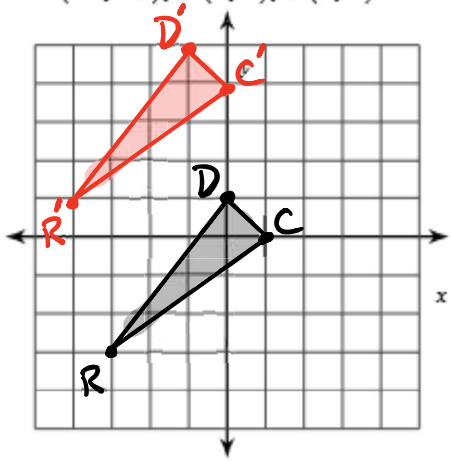
$C'(0, -5), W'(3, -4), N'(5, -5)$

Graph the image and the preimage of the figure using the transformation given.

7) translation: $(x, y) \rightarrow (x - 5, y + 4)$
$C(2, -3), V(3, 1), R(5, -2)$



8) translation: $(x, y) \rightarrow \langle -1, 4 \rangle$
$R(-3, -3), D(0, 1), C(1, 0)$

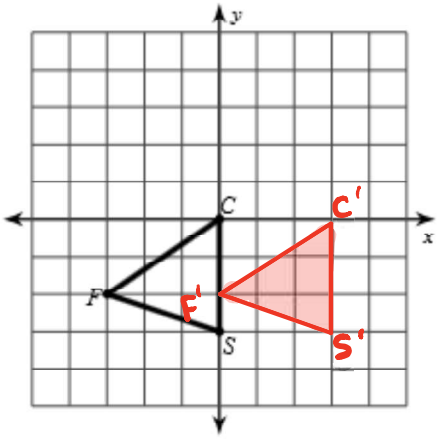


Transformations – Translations

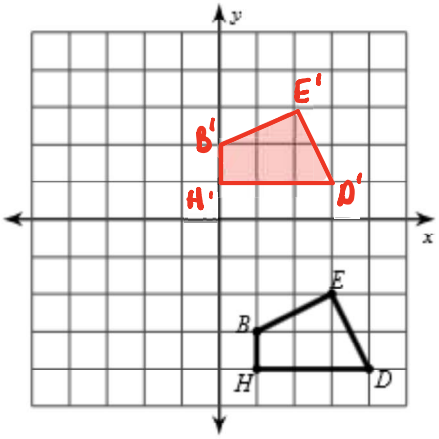
G.CO.A.5 Hw Section 20.1 Name_____

Graph the image of the figure using the transformation given.

9) $T_{3,0}$



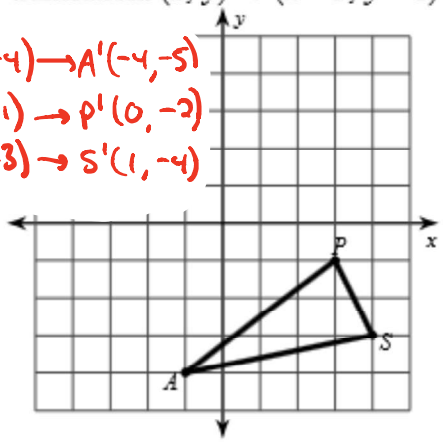
10) translation: $(x, y) \rightarrow (x - 1, y + 5)$



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

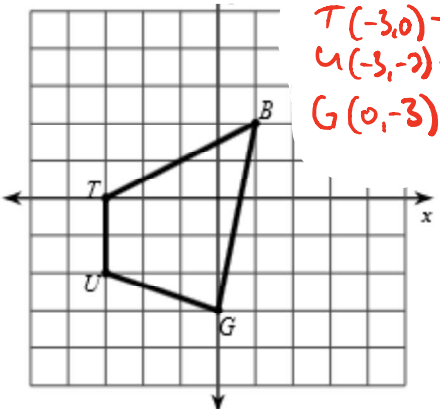
11) translation: $(x, y) \rightarrow (x - 3, y - 1)$

A(-1,-4) → A'(-4,-5)
P(3,-1) → P'(0,-2)
S(4,-3) → S'(1,-4)



12) $T_{3,-2}$

B(1,2) → B'(4,0)
T(-3,0) → T'(0,-2)
U(-3,-2) → U'(0,-4)
G(0,-3) → G'(3,-5)



13) translation: $(x, y) \rightarrow (x - 5, y + 4)$
$H(1, -1)$, $W(2, 0)$, $E(4, -5)$, $Y(3, -5)$

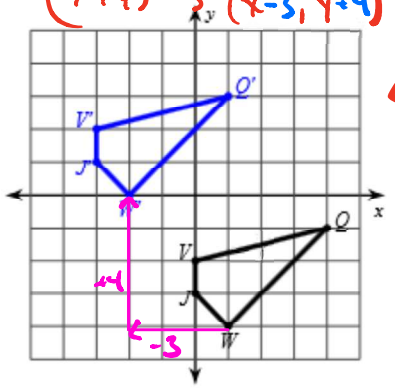
H'(-4,3)
W'(-3,4)
E'(-1,-1)
Y'(-2,-1)

14) translation $\langle 6, -3 \rangle$
$M(-4, 4)$, $Z(-4, 5)$, $E(-1, 5)$, $K(-1, 3)$

M'(2,1), Z'(2,2), E'(5,2), K'(5,0)

Write an algebraic rule to describe each transformation.

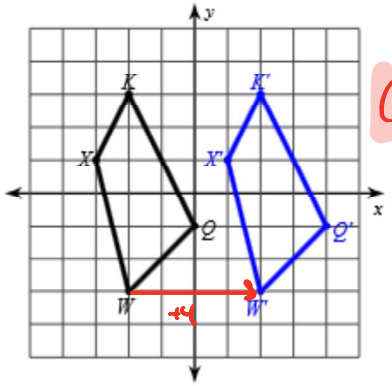
15) $(x,y) \rightarrow (x-3, y+4)$



$\langle -3, 4 \rangle$

$T_{-3,4}$

16)



$(x,y) \rightarrow (x+4, y)$

$\langle 4, 0 \rangle$

$T_{4,0}$

17) $L(-5, -3)$, $X(-4, -1)$, $J(-3, -1)$, $Z(-5, -5)$
+3 +1 to
$L'(-2, -2)$, $X'(-1, 0)$, $J'(0, 0)$, $Z'(-2, -4)$

$(x,y) \rightarrow (x+3, y+1)$

18) $V(-1, -3)$, $T(-3, 0)$, $B(-3, 1)$, $R(1, -2)$
+3 to +1
$V'(2, -2)$, $T'(0, 1)$, $B'(0, 2)$, $R'(4, -1)$

$(x,y) \rightarrow (x+3, y+1)$