

Name _____

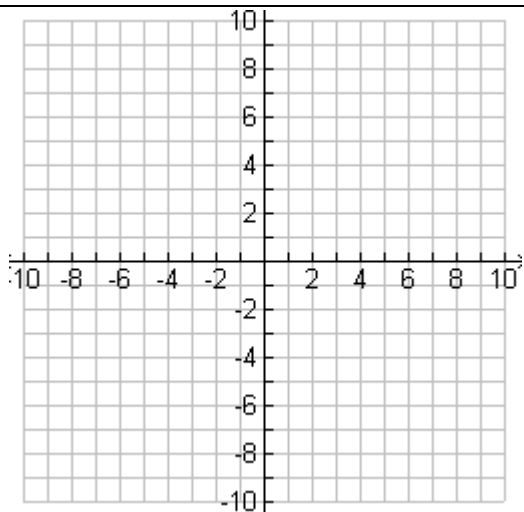
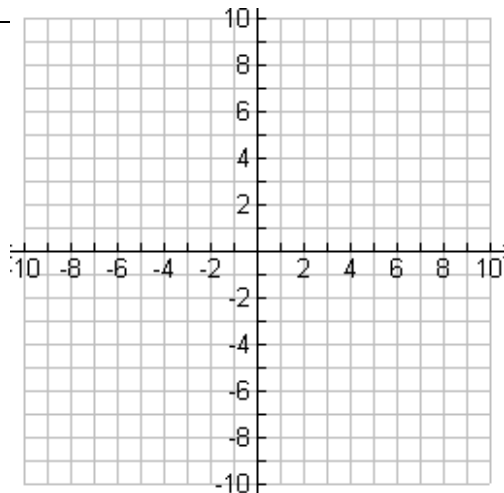
Worksheet - Translations in a Coordinate Plane

1) Graph $\triangle DEF$ and $\triangle D'E'F'$, the image of $\triangle DEF$ under $T_{(4,-5)}$

$$D(1,2)$$

$$E(4,2)$$

$$F(1,6)$$



2) Transform polygon $ABCD$ under $T_{(-1,0)}$

$$A(2,-8)$$

$$B(0,-2)$$

$$C(-3,-4)$$

$$D(-2,-7)$$

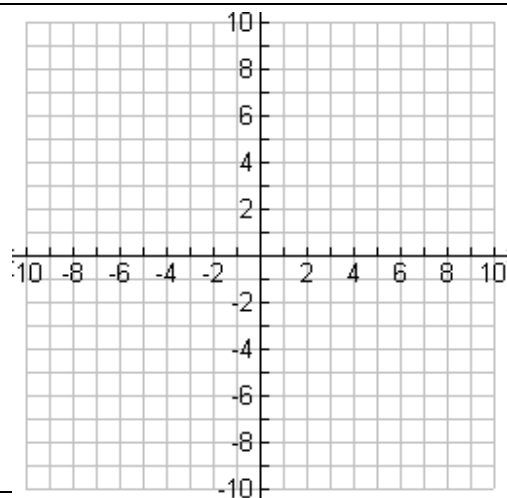
3) a) Graph $\triangle P'Q'R'$, the image of $\triangle PQR$ under $T_{(-6,3)}$.

b) Graph $\triangle P''Q''R''$, the image of $\triangle P'Q'R'$ under $T_{(0,4)}$

$$P(3,-3)$$

$$Q(5,-4)$$

$$R(6,1)$$

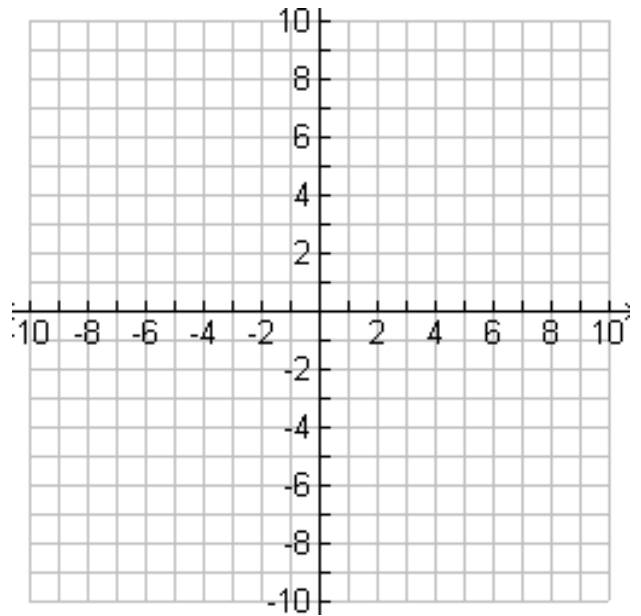


4) Graph $\triangle DOG$ and $\triangle D'O'G'$, the image of $\triangle DOG$ under $T_{(3,7)}$

$$D(-7,-4)$$

$$O(-5,3)$$

$$G(1,-2)$$



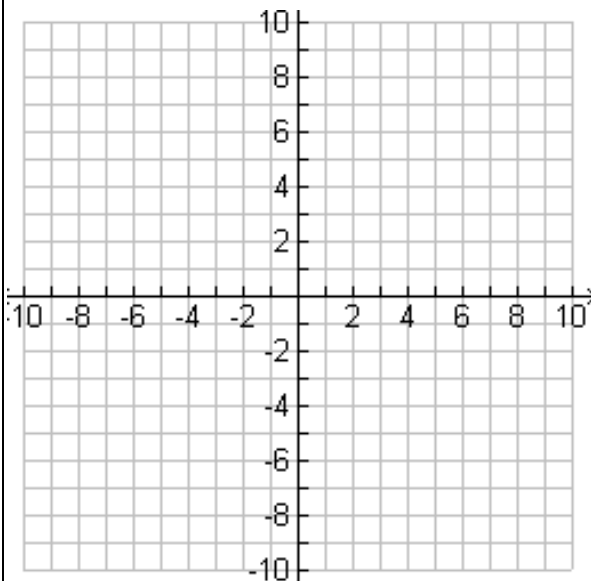
5) a) Graph $\triangle C'O'W'$, the image of $\triangle COW$ under $T_{(-7,1)}$

b) Graph $\triangle C''O''W''$, the image of $\triangle C'O'W'$ under $T_{(3,-6)}$

$$C(-3,5)$$

$$O(4,6)$$

$$W(0,2)$$



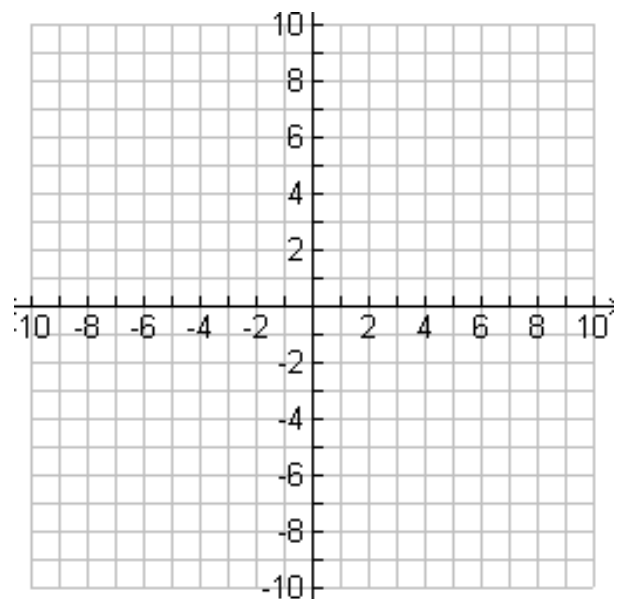
6) a) Find the coordinates of $\triangle H'E'N'$, the image of $\triangle HEN$ under $T_{(4,2)}$

b) Graph $\triangle H'E'N'$, the reflection of $\triangle H'E'N'$ $R_{x\text{-axis}}$

$$H(-6,0)$$

$$E(-2,0)$$

$$N(-3,3)$$



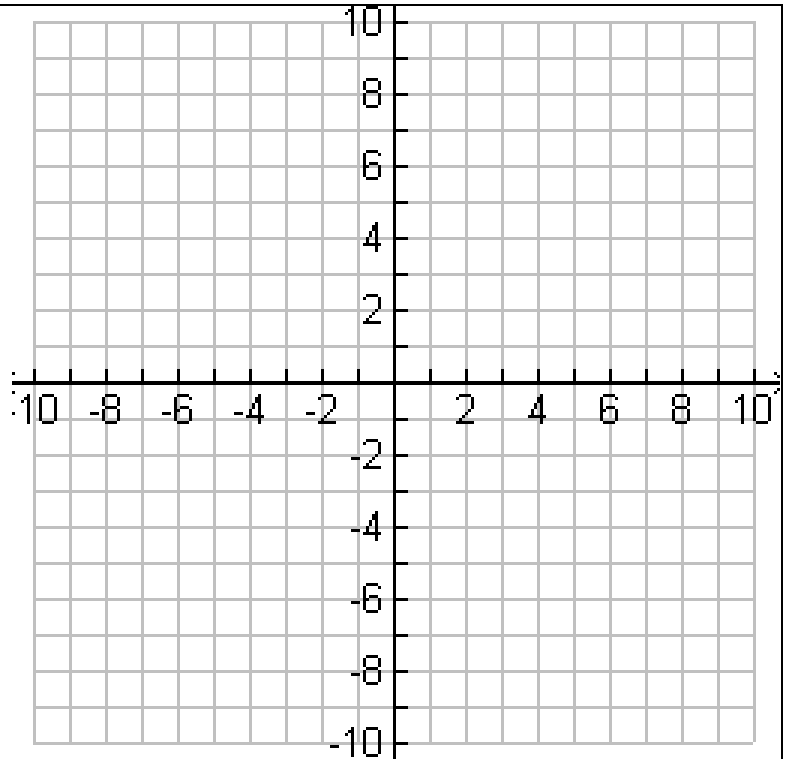
7) a) Graph $\triangle PIG$ and $\triangle P'I'G'$, the image of $\triangle PIG$ under $T_{(3,6)}$

b) Graph $\triangle P''I''G''$, the image of $\triangle P'I'G'$ under $r_{x=-1}$

$P(-1,2)$

$I(4,1)$

$G(2,-2)$



8) a) Transform polygon $BIRD$ under $T_{(-1,8)}$

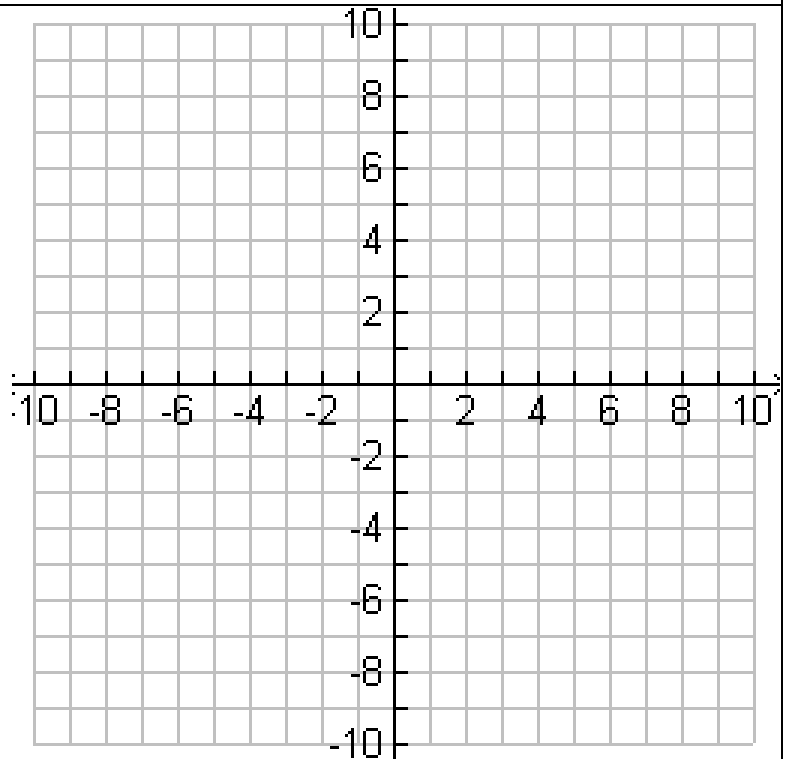
b) Transform polygon $B'I'R'D'$ under $R_{y=-x}$

$B(2,-5)$

$I(6,-4)$

$R(6,-7)$

$D(3,-8)$



9. Complete the following

- a) A reflection over $y = 6$ followed by a reflection over $y = 8$ result in a translation in the direction of UP DOWN LEFT RIGHT a total distance of _____.
- b) A reflection over $y = -4$ followed by a reflection over $y = 0$ result in a translation in the direction of UP DOWN LEFT RIGHT a total distance of _____.
- c) A reflection over $x = -3$ followed by a reflection over $x = 2$ result in a translation in the direction of UP DOWN LEFT RIGHT a total distance of _____.
- d) A reflection over $x = 5$ followed by a reflection over $y = -1$ result in a translation in the direction of UP DOWN LEFT RIGHT a total distance of _____.

10. Complete the following

- a) If you wanted to translate a shape to the right 8 units, you could reflect over $x = 3$ and then $x =$ _____.
- b) If you want to translate a shape down 6 units, you could reflect over $y = -3$ and then $y =$ _____.
- c) If you wanted to translate a shape to the left 4 units, you could reflect over $x = -4$ and then $x =$ _____.
- d) If you want to translate a shape up 12 units, you could reflect over $y = 2$ and then $y =$ _____.