Name _____

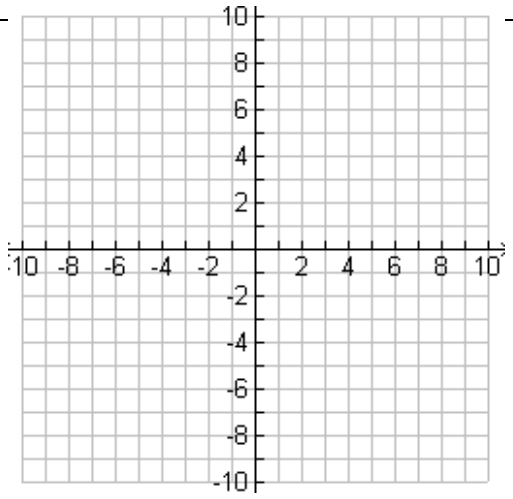
Worksheet - Translations in a Coordinate Plane

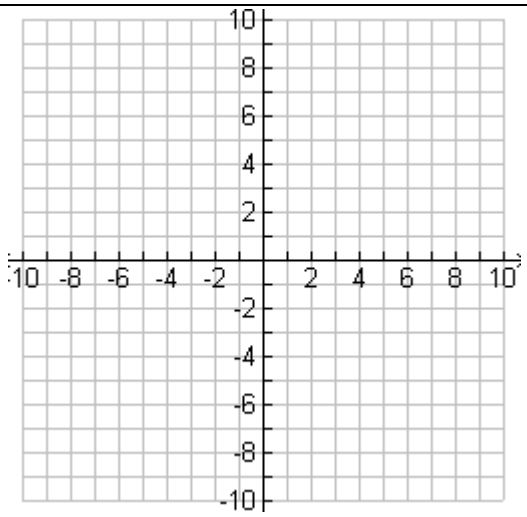
1) Graph $\triangle DEF$ and $\triangle D'E'F'$, the image of $\triangle DEF$ under $T_{(4,-5)}$

$D(1,2)$

$E(4,2)$

$F(1,6)$





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

$A(2,-8)$

$B(0,-2)$

$C(-3,-4)$

$D(-2,-7)$

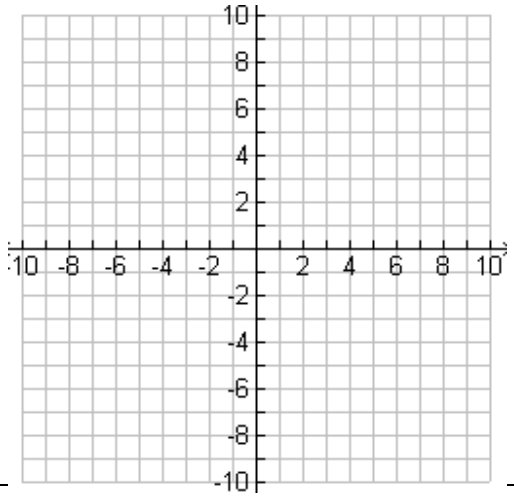
3) a) Graph $\triangle P'Q'R'$, the image of $\triangle PQR$ under $T_{(-6,3)}$.

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

$P(3,-3)$

$Q(5,-4)$

$R(6,1)$

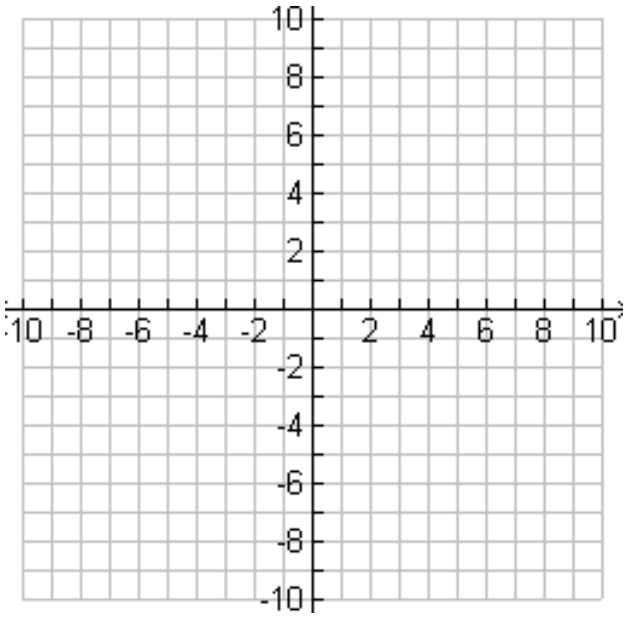


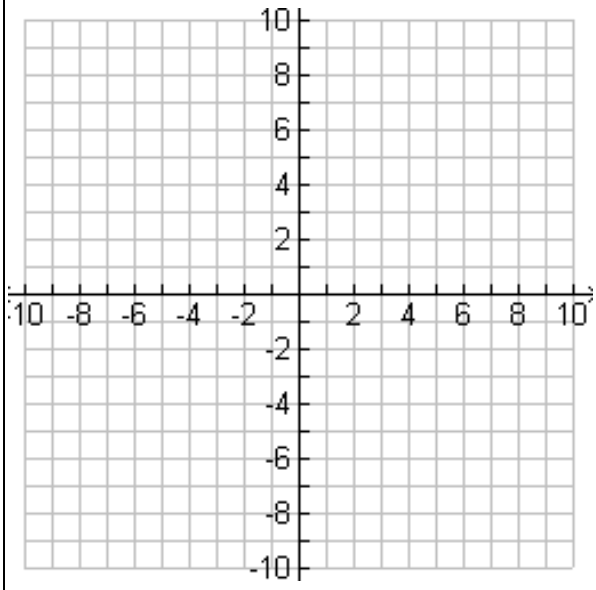
4) Graph $\triangle DOG$ and $\triangle D'O'G'$, the image of $\triangle DOG$ under $T_{(3,7)}$

$D(-7,-4)$

$O(-5,3)$

$G(1,-2)$





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 $T_{(3,-6)}$

$C(-3,5)$

$O(4,6)$

$W(0,2)$

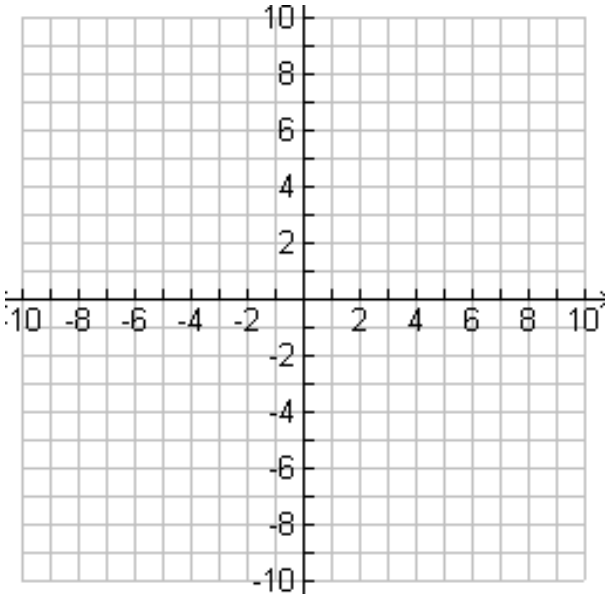
6) a) Find the coordinates of $\triangle H'E'N'$, the image of $\triangle HEN$ under $T_{(4,2)}$

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

$H(-6,0)$

$E(-2,0)$

$N(-3,3)$



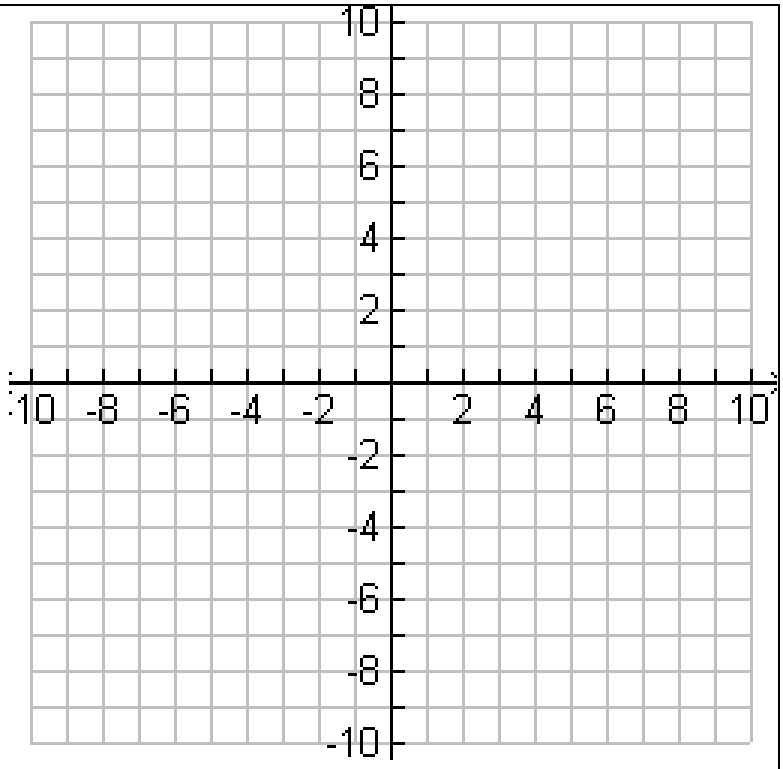
7) a) Graph $\triangle PIG$ and $\triangle P'I'G'$, the image of $\triangle PIG$ under $T_{(3,6)}$

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 $T_{(-1,8)}$

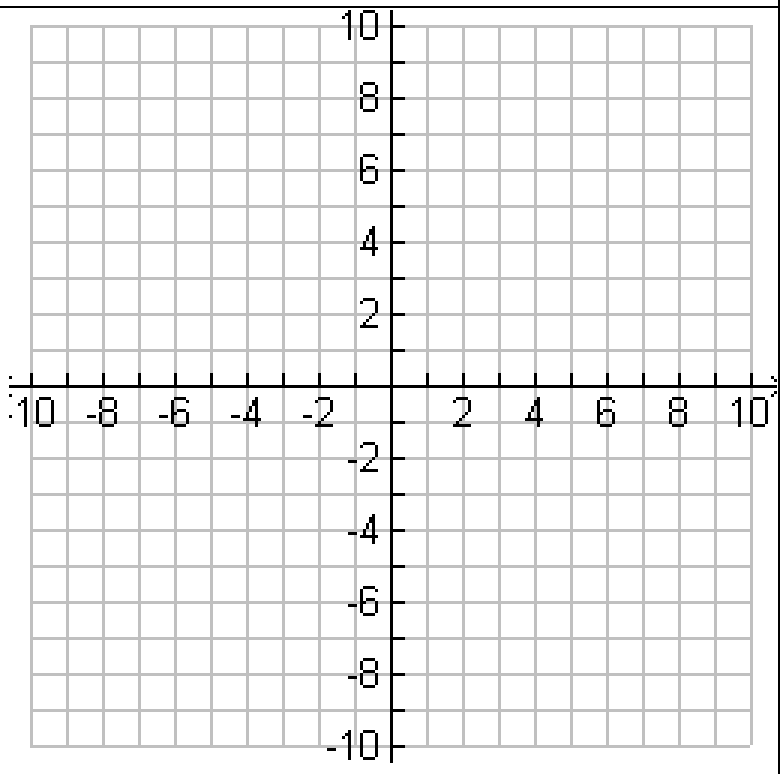
b) Transform polygon $B'I'R'D'$ under $R_{y=-x}$

$B(2,-5)$

$I(6,-4)$

$R(6,-7)$

$D(3,-8)$



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 distacne 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 distacne 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 distacne 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 distacne 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 unitls, 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 unitls, you could reflect over y = 2 and then y = _____.