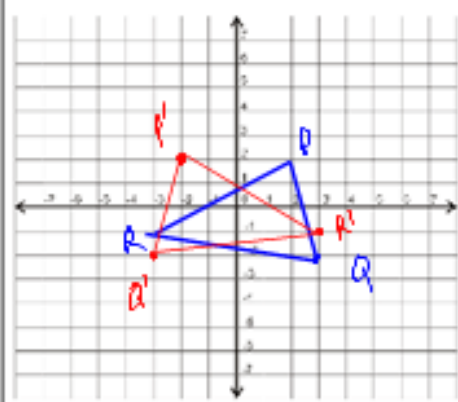
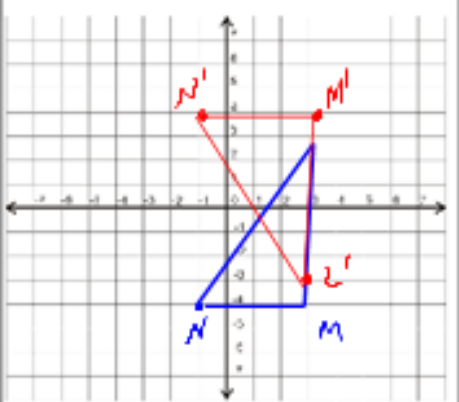
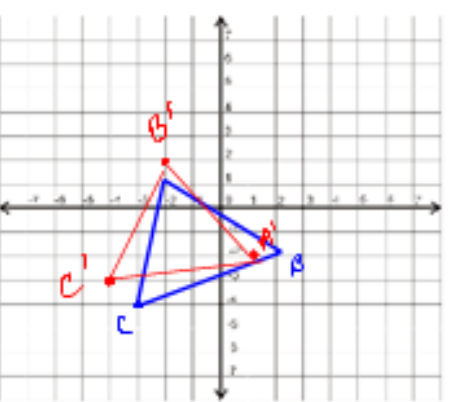


Chapter 9 Transformations

Name _____

Reflections

Flips

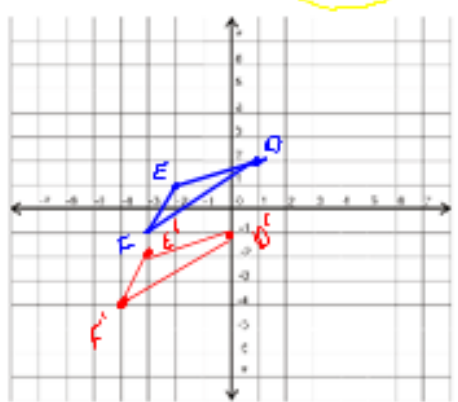
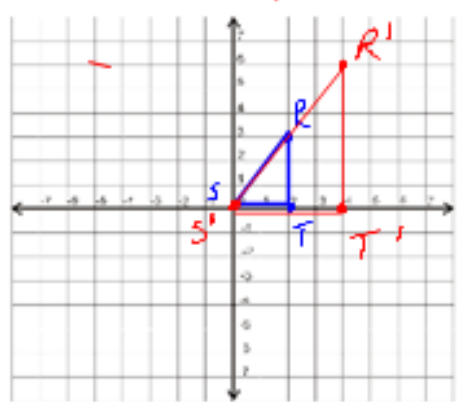
Over y-axis	Over x-axis	Over y=x
$(x,y) \rightarrow (-x,y)$	$(x,y) \rightarrow (x,-y)$	$(x,y) \rightarrow (y,x)$
$P(2,2) \rightarrow P'(-2,2)$ $Q(3,-2) \rightarrow Q'(-3,-2)$ $R(-3,-1) \rightarrow R'(3,-1)$	$L(3,3) \rightarrow L'(3,-3)$ $M(3,-4) \rightarrow M'(3,4)$ $N(-1,-4) \rightarrow N'(-1,4)$	$A(-2,1) \rightarrow A'(1,2)$ $B(2,-2) \rightarrow B'(-2,2)$ $C(-3,-4) \rightarrow C'(-4,-3)$
		

Translations

Slides

Dilations

*Enlarge $k > 1$
or Reduce $k < 1$*

Along a vector $\langle a,b \rangle$	Centered at Origin, with scale factor of k
$(x,y) \rightarrow (x+a, y+b)$	$(x,y) \rightarrow (kx, ky)$
$D(1,2) \rightarrow D'(0,-1)$ $E(-2,1) \rightarrow E'(-3,-2)$ $F(-3,-1) \rightarrow F'(-4,-4)$ $\langle -1,-3 \rangle$	$R(2,3) \rightarrow R'(4,6)$ $S(0,0) \rightarrow S'(0,0)$ $T(2,0) \rightarrow T'(4,0)$; $k=2$
	

Rotations *turn*

90° Rotation	180° Rotation	270° Rotation
$(x,y) \rightarrow (-y, x)$	$(x,y) \rightarrow (-x, -y)$	$(x,y) \rightarrow (y, -x)$
$K(4,2) \rightarrow K'(-2,4)$ $L(1,3) \rightarrow L'(-3,1)$ $M(2,1) \rightarrow M'(-1,2)$	$F(-3,3) \rightarrow F'(3,-3)$ $G(2,4) \rightarrow G'(-2,-4)$ $H(-1,-1) \rightarrow H'(1,1)$	$J(3,-7) \rightarrow J'(-7,-3)$ $K(1,-1) \rightarrow K'(-1,-1)$ $L(5,-3) \rightarrow L'(-3,-5)$