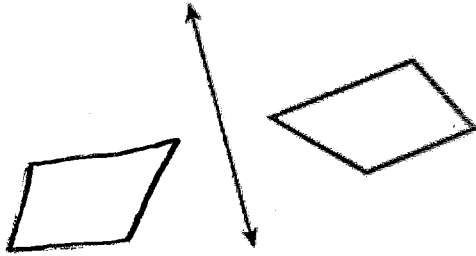
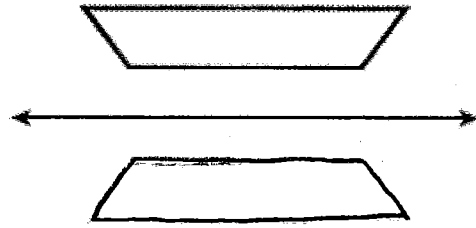


Using patty paper, reflect the given pre-image over the line of reflection. Label both the pre-image and image correctly when finished.

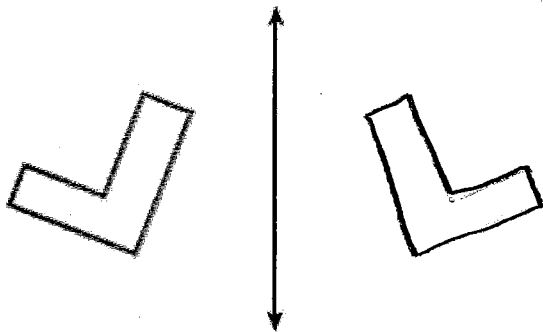
1.



2.

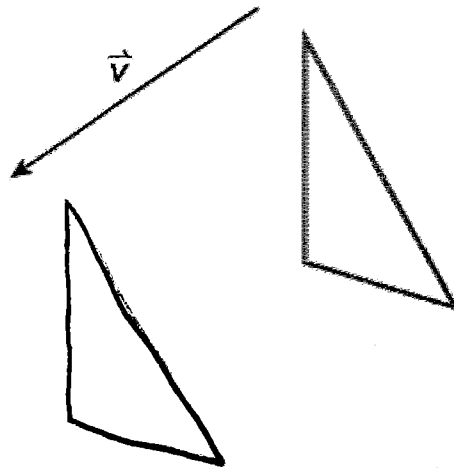


3.

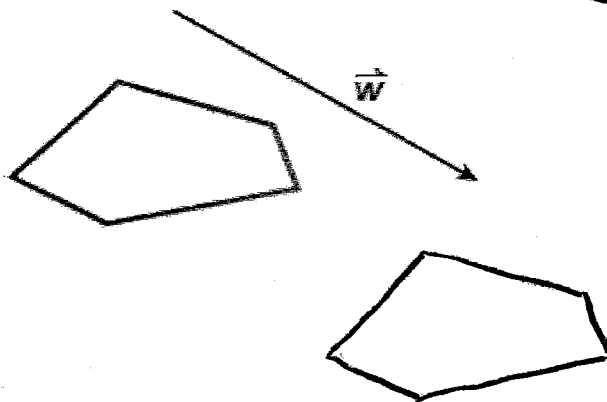


Translate the given pre-image along the given vector. Be sure to label correctly.

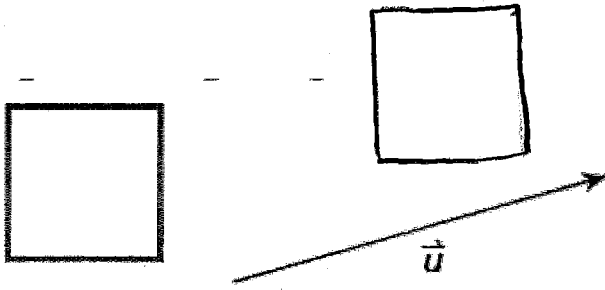
4.



5.

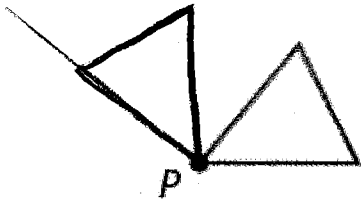


6.

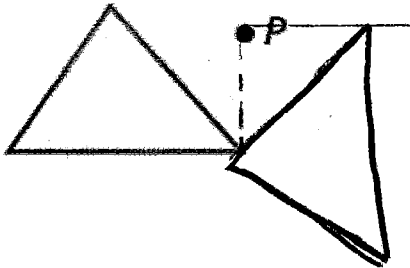


Rotate the given pre-image around the point of rotation using the given angle. Be sure to label correctly.

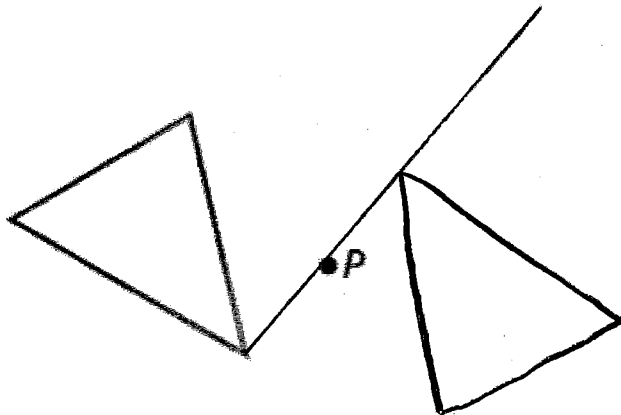
7. Rotate  
 $90^\circ$



8. Rotate  
 $90^\circ$



9. Rotate  
 $180^\circ$



10. A point  $F(-3, 1)$  is translated along the vector  $\langle 5, -1 \rangle$ . What are the coordinates of the image  $F'$ ?

$$F'(2, 0)$$

11. Which translation vector moves every point of a preimage 4 units left and 6 units up?

$$\langle -4, 6 \rangle$$

12. Parallelogram  $JKLM$  has vertices  $J(2, 1)$ ,  $K(7, 1)$ ,  $L(6, -3)$ , and  $M(1, -3)$ . What are the coordinates of the image of  $K$  if the parallelogram is rotated  $90^\circ$  about the origin?

$$K'(-1, 7)$$

13. The image of  $A(-1, 1)$  under a reflection is  $A'(-1, -1)$ . Name the transformation that produces the image of  $A$ ?

reflection across x-axis.

14. Name the coordinates of  $S(-7, 1)$  under a reflection in the  $y$ -axis.

$$S'(7, 1)$$

15.  $DEFG$  is a square with vertices at  $D(1, 1)$ ,  $E(1, 6)$ ,  $F(6, 6)$ , and  $G(6, 1)$ .  $DEFG$  is reflected in the line  $y = x$ . Find the coordinates of  $D'$ ,  $E'$ ,  $F'$ , and  $G'$ .

$$D'(1, 1)$$

$$E'(6, 1)$$

$$F'(6, 6)$$

$$G'(1, 6)$$

