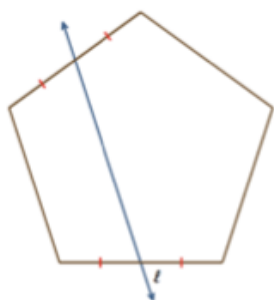
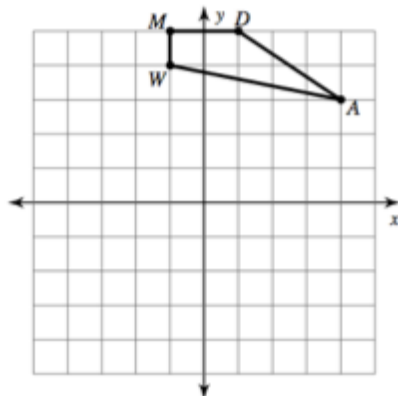


1. Which of the options below will carry this regular pentagon onto itself? *Circle All*

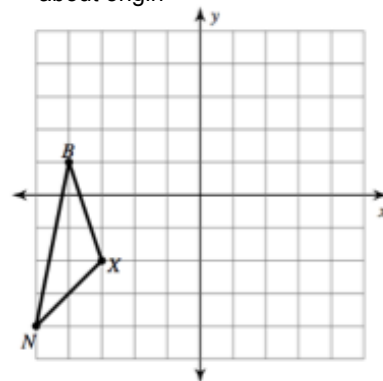


- a. rotation 90° counterclockwise
- b. reflection across  $l$
- c. rotation 72° clockwise
- d. rotation 72° counterclockwise

2. Reflect across x-axis

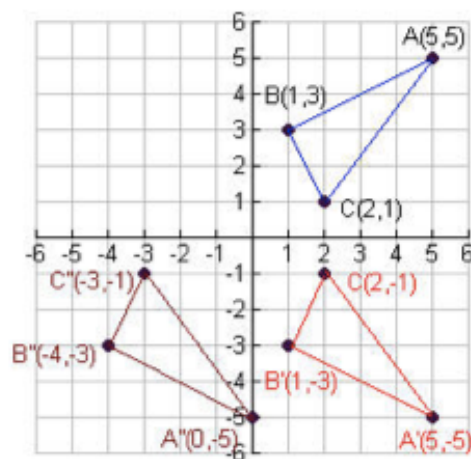


3. Rotate 90° counterclockwise about origin

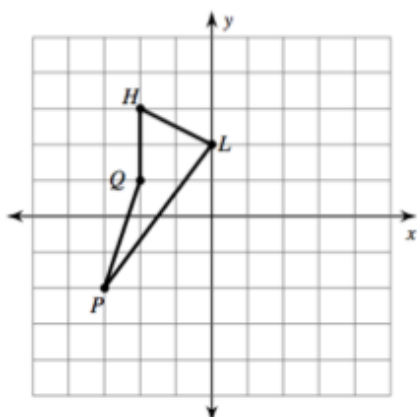


4. Which of the following is true about diagram at right? *Circle All*

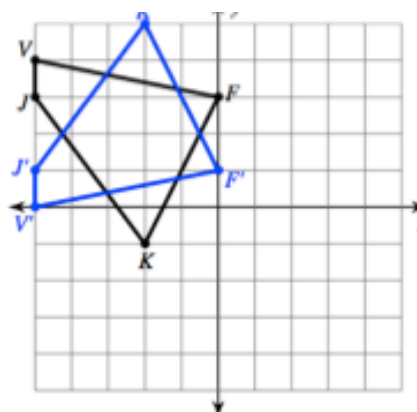
- a.  $\Delta A''B''C''$  is a translation of  $\Delta ABC$
- b.  $\Delta A'B'C'$  is a rotation of  $\Delta ABC$
- c.  $\Delta A''B''C''$  is a reflection of  $\Delta ABC$
- d.  $\Delta A'B'C'$  is a reflection of  $\Delta ABC$



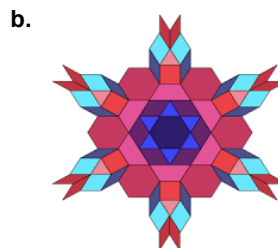
5. Reflect across  $y = x$



6. Find the line of reflection



7. Describe *all* symmetry for each shape.

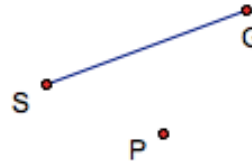


8. Which of the transformations below will carry the regular polygon onto itself? *Circle All*



- a. rotation  $50^\circ$  counterclockwise
- b. reflection across  $\ell$
- c. rotation  $120^\circ$  clockwise
- d. rotation  $60^\circ$  counterclockwise

9. Dilate: Center = P and sf = -2



10. The *translation* of triangle TRI is  $T'(-9,-7)$ ,  $R'(7,0)$  and  $I'(12,-6)$ . If the coordinate of T was  $(-11,-3)$  what were the coordinates of R and I?

11. A figure is translated  $\langle 3, -3 \rangle$ . What translation would move it back to its original position?

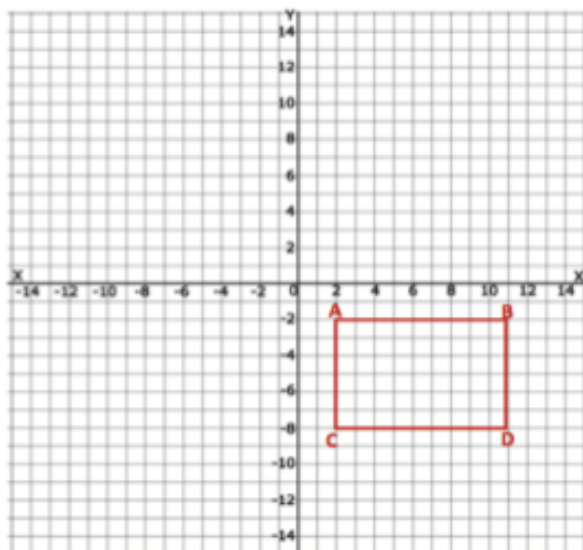
12. The image of  $M(2,-6)$  after a dilation about the origin is  $M'(-10,30)$ . What is the scale factor?

13. Which of the following rules is the composition of a dilation with scale factor of 2 and a translation 3 units right?

- a.  $(x,y) \rightarrow (2x+3, 2y)$
- b.  $(x,y) \rightarrow (2x+6, 2y)$
- c.  $(x,y) \rightarrow (2x, 2y + 3)$
- d.  $(x,y) \rightarrow (2x - 3, 2y)$

14. Graph the image of ABCD after:

translate  $(x,y) \rightarrow (x+3,y)$  and  
reflect across y-axis



15. Rotate  $\overline{SG}$  about P,  $80^\circ$  clockwise

