

Name:

key

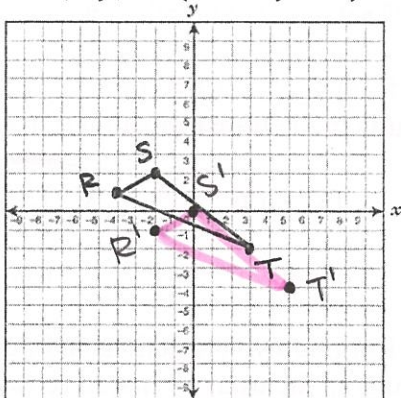
Date:

Period:

OPTIONAL TEST PRACTICE

1. Graph $\triangle RST$ with vertices $R(-4, 1)$, $S(-2, 2)$ and $T(3, -2)$ and its image after the translation:

$$(x, y) \rightarrow (x + 2, y - 2)$$



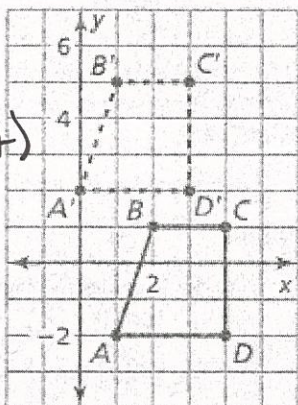
2. Write a rule for the translation from quadrilateral ABCD to quadrilateral A'B'C'D' in both formats (coordinate rule and vector rule).

Coordinate Rule:

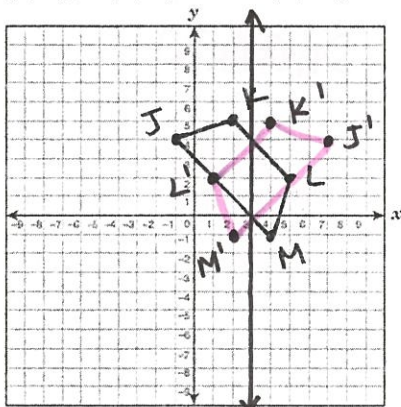
$$(x, y) \rightarrow (x - 1, y + 4)$$

Vector Rule:

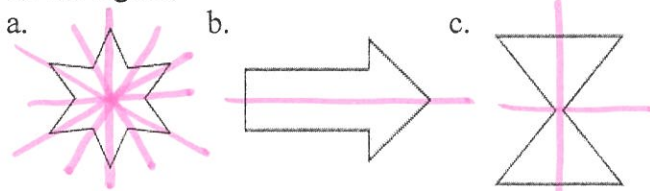
$$\langle -1, 4 \rangle$$



3. Graph quadrilateral JKLM with coordinates $J(-1, 4)$, $K(2, 5)$, $L(5, 2)$ and $M(4, -1)$ in the line $x = 3$.



4. Determine whether the figure has line symmetry. If so, draw ALL lines of symmetry on the figure.

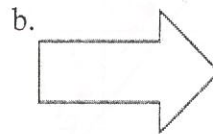


5. Determine whether the figure has rotational symmetry. If so, determine ALL angles of rotational symmetry that will map the figure onto itself.

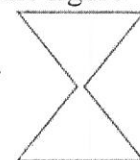


yes

60°, 120°, 180°, 240°, 300°



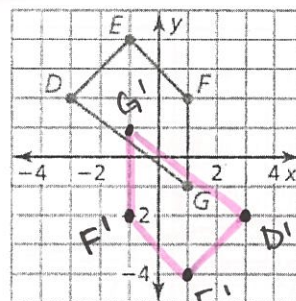
NO



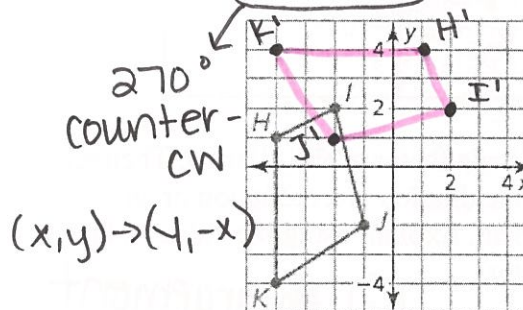
yes

180°

6. Graph quadrilateral HIJK and its image after a rotation of 180° about the origin.



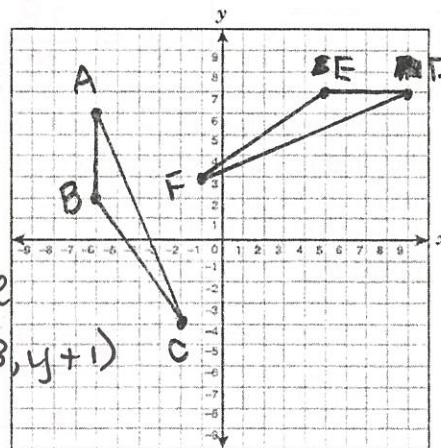
7. Graph quadrilateral DEFG and its image after a rotation of 90° clockwise about the origin.



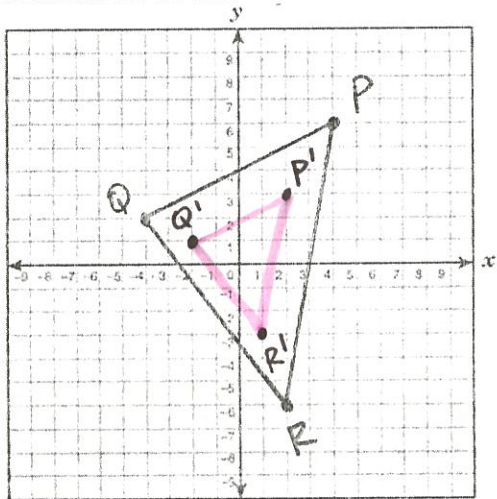
8. Determine whether the polygons are congruent. If so, write a composition of transformations that maps $\triangle ABC$ to $\triangle DEF$.

① rotate 270° about origin

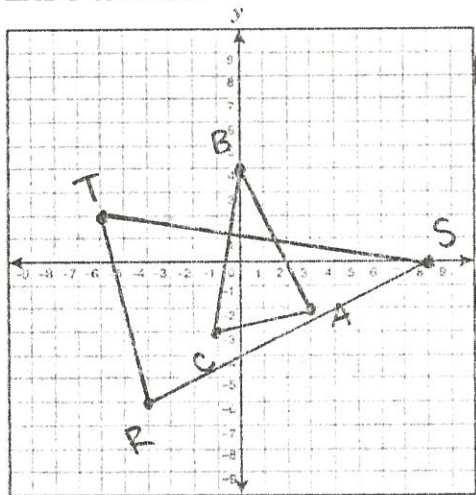
② translate $(x, y) \rightarrow (x + 3, y + 1)$



9. Graph $\triangle PQR$ and its image after a dilation with scale factor of 0.5.

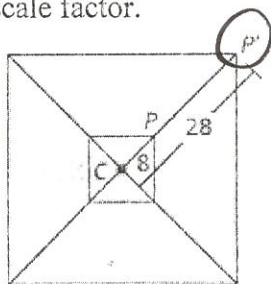


10. Describe a similarity transformation that maps $\triangle ABC$ to $\triangle RST$.



① rotate 270° about origin
② dilate w/ $k=2$

11. Find the scale factor of the dilation. Then tell whether the dilation is a reduction or an enlargement. Explain using the value of the scale factor.



enlargement because $k > 1$

$$k = \frac{28}{8} = \frac{7}{2}$$

12. A magnifying glass shows the image of an object that is 7 times the object's actual size. Determine the length of the image of the object if the actual length of the object is 3.5 millimeters.

$$\frac{x}{3.5} = 7 \rightarrow x = 24.5$$

24.5 mm

13. A 270° rotation clockwise is the same as a 90° rotation counterclockwise.
14. A 180° rotation clockwise is the same as a 180° rotation counterclockwise.
15. A 90° rotation clockwise is the same as a 270° rotation counterclockwise.

16. Performing two reflections in parallel lines results in the transformation (circle one):

Rotation

Translation

Dilation

Reflection

17. Performing two reflections in intersecting lines results in the transformation (circle one):

Rotation

Translation

Dilation

Reflection

18. Name ALL transformations that are rigid motions:

Translation
Rotation
Reflection

19. Name ALL transformations that are nonrigid motions:

Dilation