

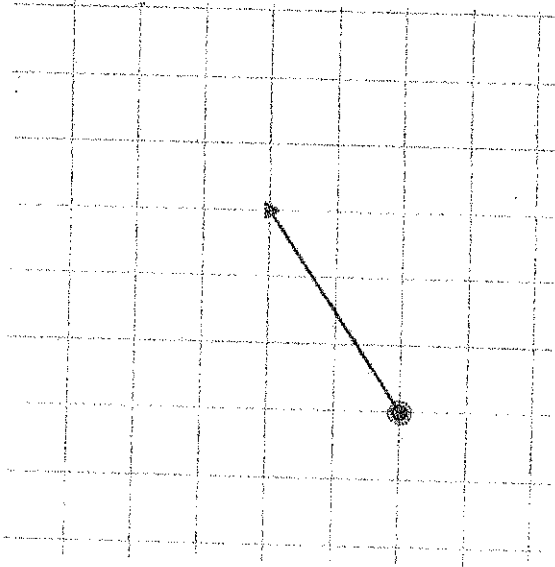
Name _____

Date _____

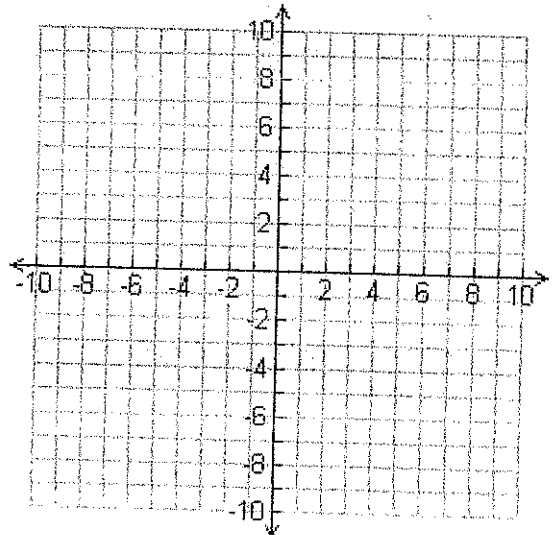
Period _____

Transformations Midterm Review

1. A) Name the vector below.

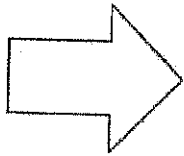


B) Given $\triangle ABC$ with vertices $A(-5, -4)$, $B(-1, 4)$ and $C(3, -1)$, translate the given triangle along the vector in part A to find the image $\triangle A'B'C'$.

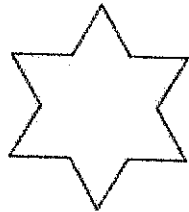


2. Find how many lines of symmetry each of the figures have.

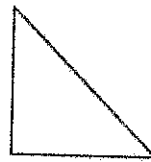
A)



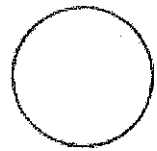
B)



C)

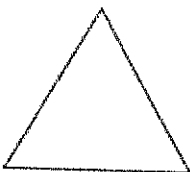


D)

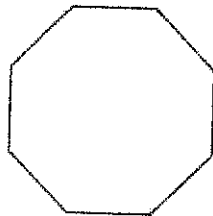


3. Find the angle of rotational symmetry that the following figures have.

A)



B)



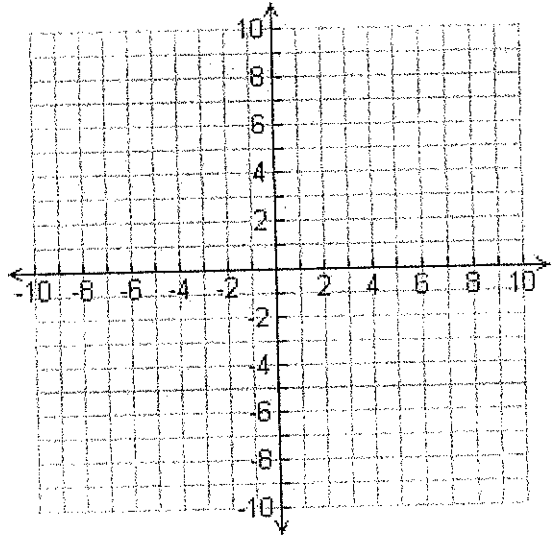
C)



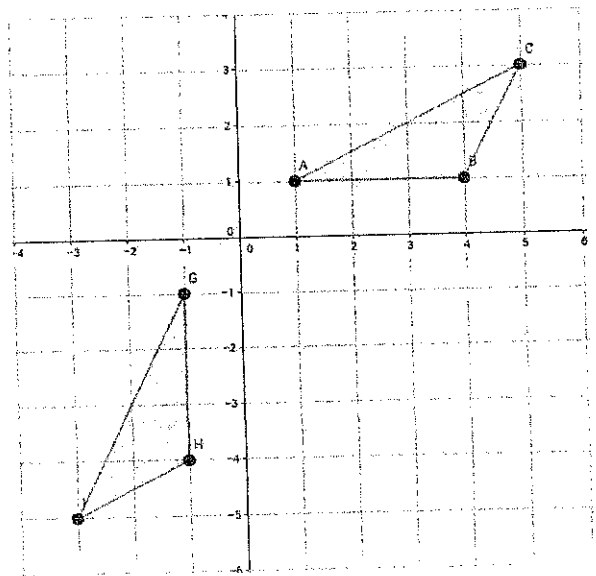
4. A) Graph $\triangle HIJ$ with vertices $H(-8, -5)$, $I(-4, -7)$, and $J(0, -2)$.

B) Find the coordinates of the image of $\triangle HIJ$ under the following composition of transformations,

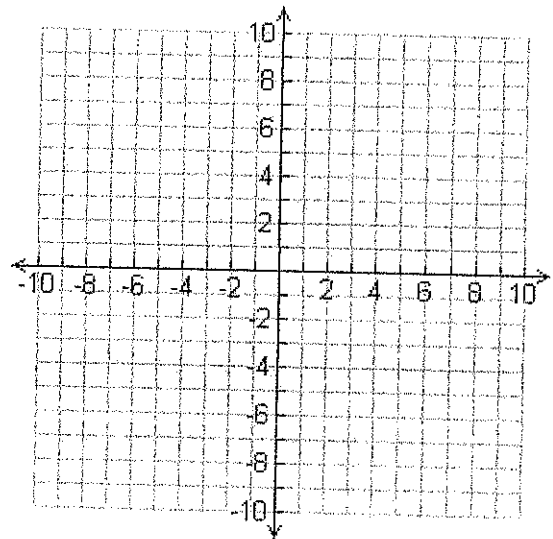
$$T_{\langle -2, 6 \rangle} \circ r_{y=0}$$



5. Find the composition of transformations (rigid motions) that maps $\triangle ABC$ to $\triangle GHI$.

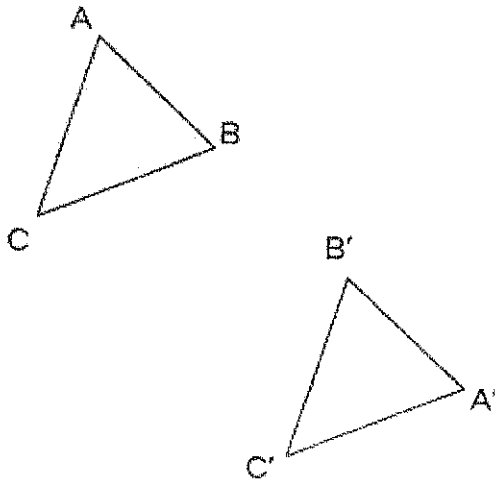


6. Find the image of $\triangle ABC$ with vertices $A(6, -2)$, $B(1, 3)$, and $C(7, 7)$ after a rotation of 270° .

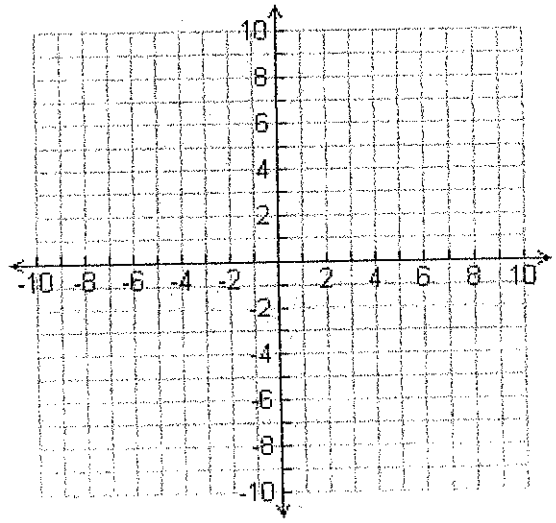


7. A point $T(4, -2)$ is mapped to $T'(16, -8)$ under a dilation. Find the scale factor.

8. Find the line of reflection given a preimage and its image.

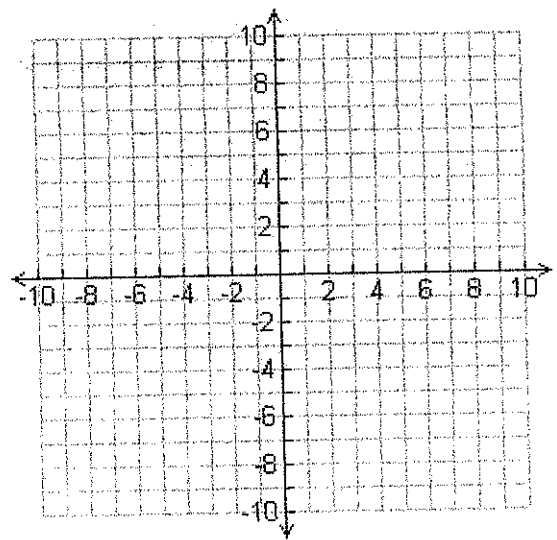


9. Find the image of $\triangle ABC$ with vertices $A(3, 3)$, $B(6, -8)$, and $C(9, 0)$ after a reflection in the line $y = -x$.

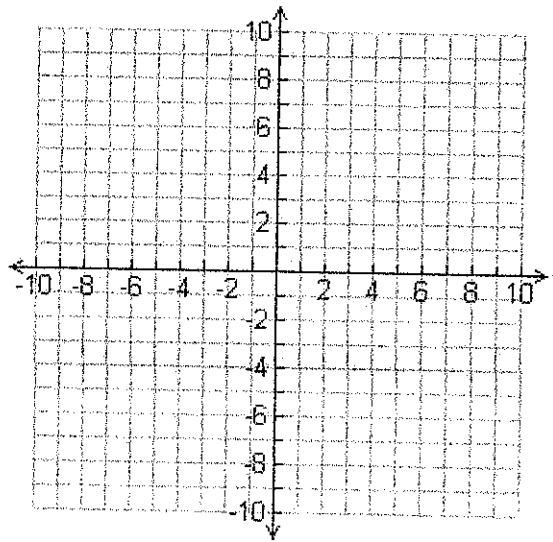


10. Explain why a dilation is not a rigid motion.

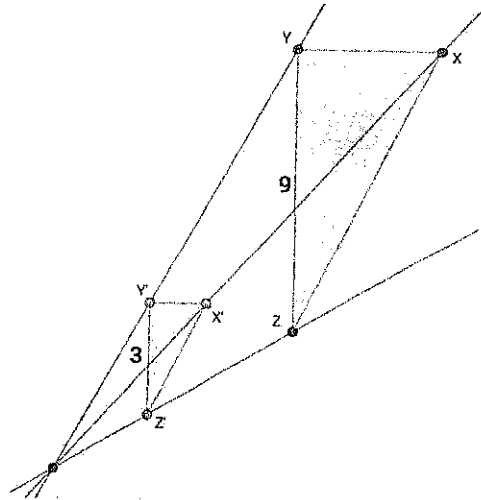
11. Reflect $\triangle ABC$ with vertices $A(3, -6)$, $B(2, -3)$ and $C(5, 6)$ in the line $x = 3$.



12. Find the image of preimage QRS with vertices $Q(-2, 4)$, $R(3, 4)$ and $S(-1, 1)$ after a dilation with scale factor of 2 with center of dilation at the origin.



13. A) Find the scale factor of the dilation.
B) Determine if it is a reduction or an enlargement. Explain why.



14. Explain the difference between similarity transformations and congruence transformations.

15. A) What is the image of point $(4, -6)$ under the following composition of transformations, $R_{90^\circ} \circ r_{x\text{-axis}}$.
B) Explain which single transformation is equivalent to the composition described.

