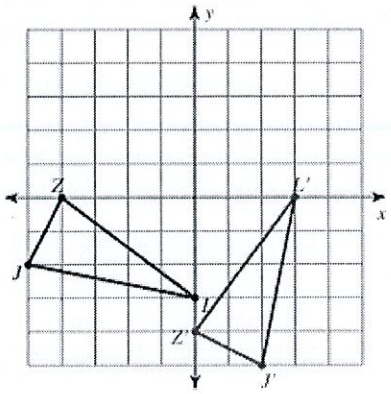
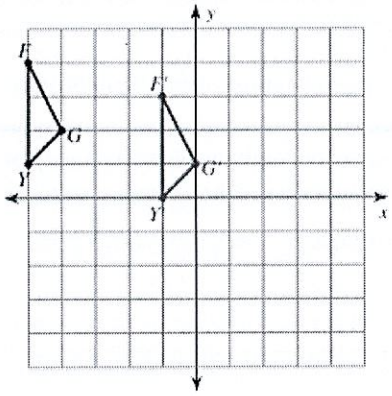
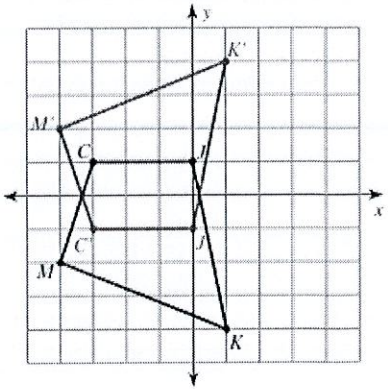
Practice Test #2 Name_____

Look at the following transformations and determine what transformation occurred from pre-image to image.

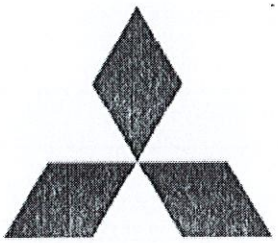






1._____ 2. _____ 3. _____

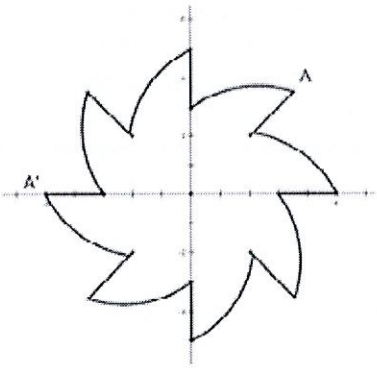
4. Determine which rotations will map this figure to itself.



i. 45°
ii. 60°
iii. 120°
iv. 180°

a. ii only
b. ii and iii
c. ii, iii, and iv
d. iii and iv

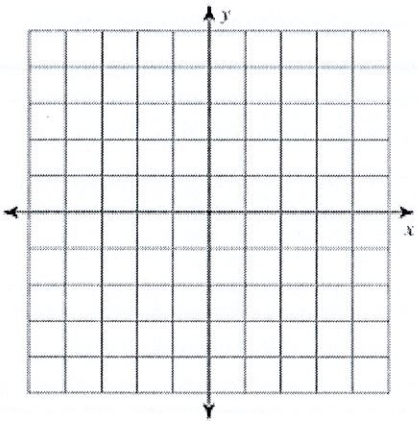
5. Determine the angle of rotation for A to map onto A'.



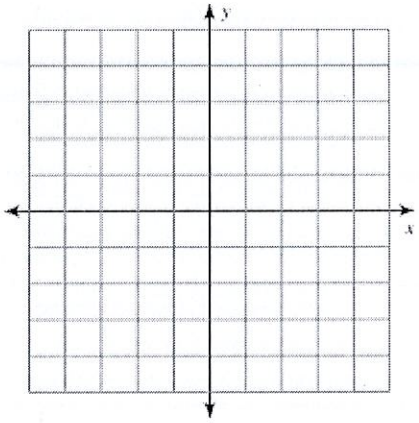
Practice Test #2 Name_____

Graph the image of the figure using the transformation given.

6. rotation 90° clockwise about the origin
$B(-2, 0)$, $C(-4, 3)$, $Z(-3, 4)$, $X(-1, 4)$



7. reflection across $y = x$
$K(-5, -2)$, $A(-4, 1)$, $I(0, -1)$, $J(-2, -4)$

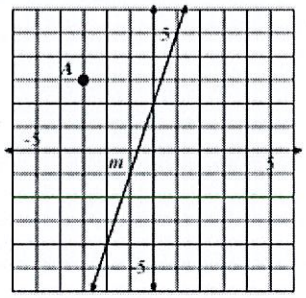


Find the coordinates of the vertices of each figure after the given transformation.

8. rotation 180° about the origin
$E(2, -2)$, $J(1, 2)$, $R(3, 3)$, $S(5, 2)$

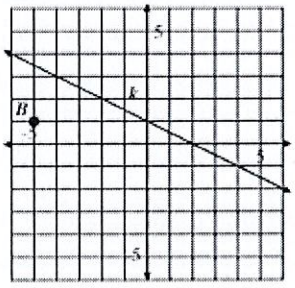
9. reflection across $y = 2$
$J(1, 3)$, $U(0, 5)$, $R(1, 5)$, $C(3, 2)$

10.



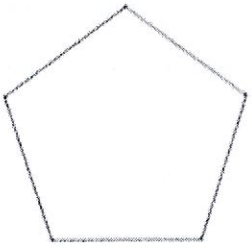
Reflect point A over line m and label the image A'

11.



Reflect point B over line k and label the image B'

For questions 12 – 14, use the regular pentagon to the right.



12. List all the angles of rotation up to 360° that will carry the figure onto itself.

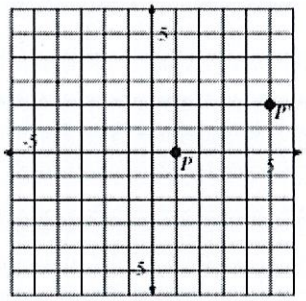
13. On the octagon, draw the diagonals.

14. How many lines of reflection (symmetry) are there?

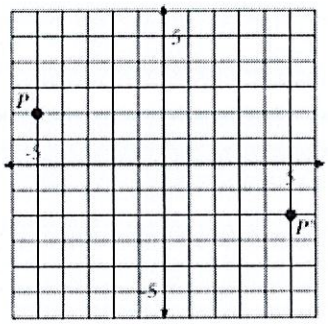
Practice Test #2 Name_____

For each pair of point, P and P' draw in the line of reflection that would need to be used to reflect P onto P'. Then find the equation of the line of reflection.

15.



16.



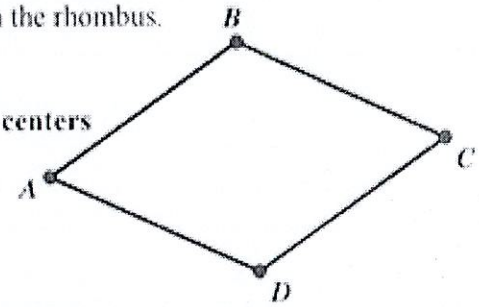
For each linear equation <u>write the slope</u> of a line parallel to the given line.

17. $y = -3x + 5$

For each linear equation <u>write the slope</u> of a line perpendicular to the given line.

18. $y = -\frac{2}{7}x + 5$

For questions 19-21 use the rhombus.



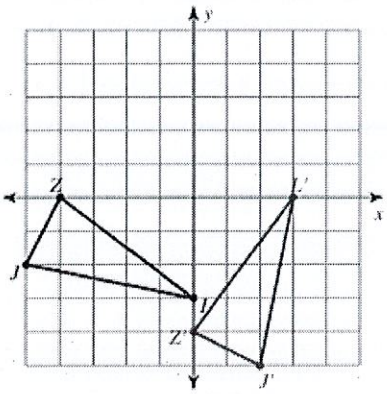
19. **Draw and <u>label</u>** the lines of symmetry and the diagonals on the rhombus.

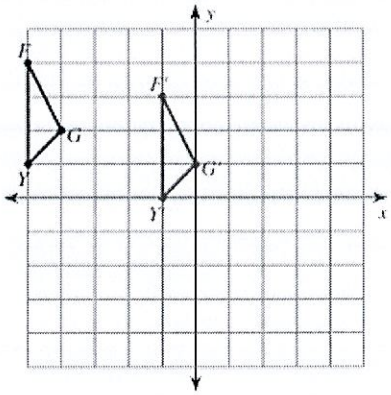
20. Using transformations, justify why $\angle B \cong \angle D$ **(Be specific, reflections are defined by lines, rotations are defined by centers and degrees of rotation)**

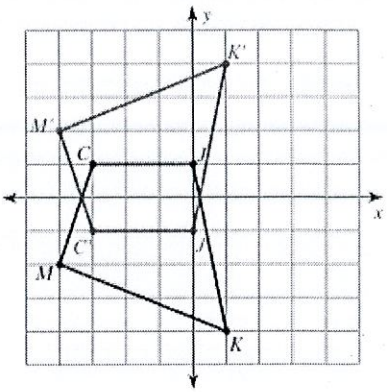
21. Using transformations, justify why $\overline{BC} \cong \overline{DC}$ **(Be specific, reflections are defined by lines, rotations are defined by centers and degrees of rotation)**

Practice Test #2 Name Key

Look at the following transformations and determine what transformation occurred from pre-image to image.





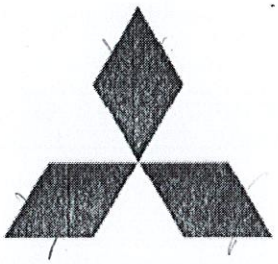


1. Rotation 90°CCW or 270° CW

2. translate down one right 4 or (x+4, y−1)

3. reflection over x-axis

4. Determine which rotations will map this figure to itself.

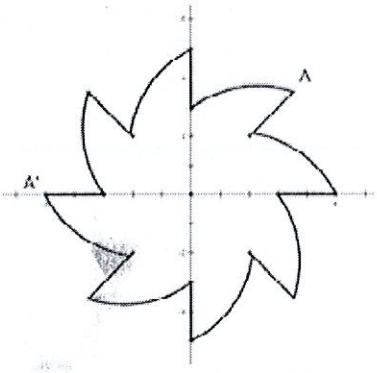


$\frac{360}{6} = 60$ 60, 120, 180, 240, 300, 360

i. 45°
ii. 60°
iii. 120°
iv. 180°

a. ii only
b. ii and iii
c. ii, iii, and iv
d. iii and iv

5. Determine the angle of rotation for A to map onto A'.



$\frac{360}{8} = 45°$

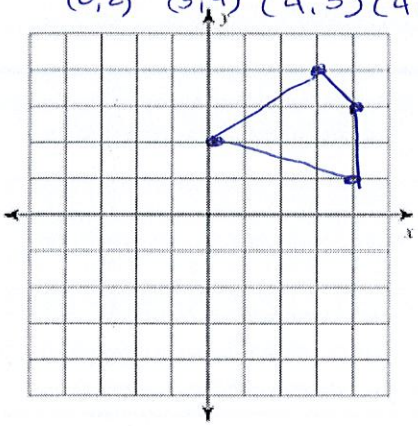
Practice Test #2 Name_____

Graph the image of the figure using the transformation given.

6. rotation 90° clockwise about the origin
$B(-2, 0)$, $C(-4, 3)$, $Z(-3, 4)$, $X(-1, 4)$

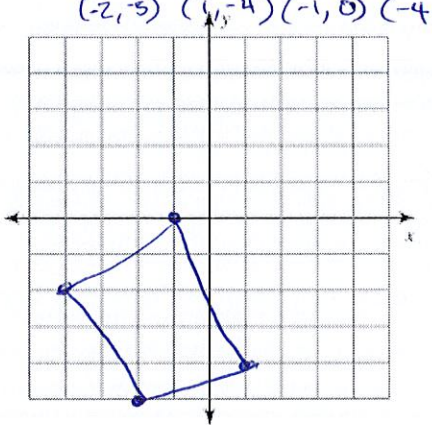
$y, -x$

(0,2) (3,4) (4,3) (4,1)



7. reflection across $y = x$
$K(-5, -2)$, $A(-4, 1)$, $I(0, -1)$, $J(-2, -4)$

(-2,-5) (1,-4) (-1,0) (-4,-2)



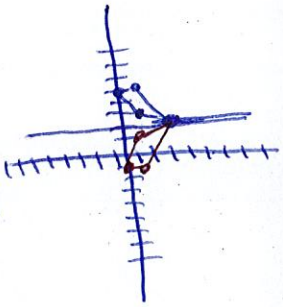
Find the coordinates of the vertices of each figure after the given transformation.

8. rotation 180° about the origin
$E(2, -2)$, $J(1, 2)$, $R(3, 3)$, $S(5, 2)$

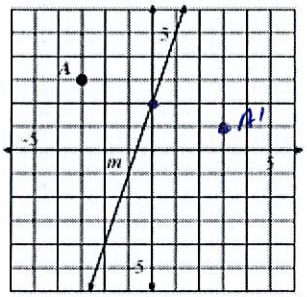
(-2,2) (-1,-2) (-3,-3) (-5,-2)

9. reflection across $y = 2$
$J(1, 3)$, $U(0, 5)$, $R(1, 5)$, $C(3, 2)$

(1,1) (0,-1) (1,-1) (3,2)

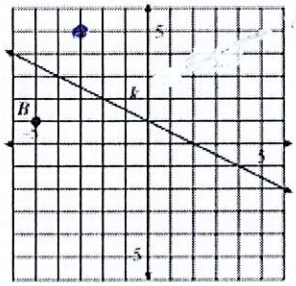


10.



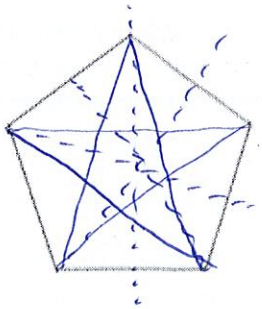
Reflect point A over line m and label the image A'

11.



Reflect point B over line k and label the image B'

For questions 12 – 14, use the regular pentagon to the right.



12. List all the angles of rotation up to 360° that will carry the figure onto itself.

360°/5 = 72° 144° 216° 288° 360

13. On the ~~octagon~~ pentagon, draw the diagonals.

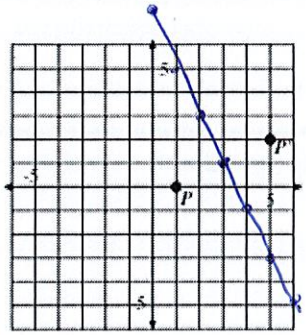
14. How many lines of reflection (symmetry) are there?

5

Practice Test #2 Name_____

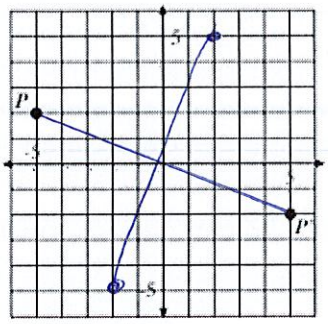
For each pair of point, P and P' draw in the line of reflection that would need to be used to reflect P onto P'. Then find the equation of the line of reflection.

15.



$y = -2x + 7$

16.



$m = -\frac{2}{5}$

$p.m = \frac{5}{2}$

$y = \frac{5}{2}x$

For each linear equation <u>write the slope</u> of a line parallel to the given line.

17. $y = -3x + 5$

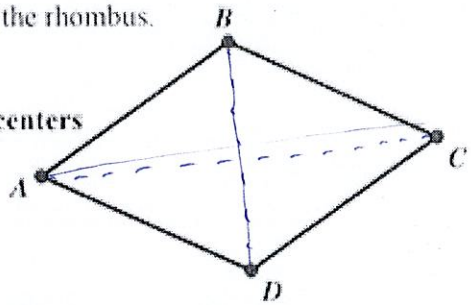
$y = -3x - 5$

For each linear equation <u>write the slope</u> of a line perpendicular to the given line.

18. $y = -\frac{2}{7}x + 5$

$y = \frac{7}{2}x + 5$

For questions 19-21 use the rhombus.



19. **Draw and <u>label</u>** the lines of symmetry and the diagonals on the rhombus.

20. Using transformations, justify why $\angle B \cong \angle D$ **(Be specific, reflections are defined by lines, rotations are defined by centers and degrees of rotation)**

when making 180° rotation, $\angle B$ will reflect onto $\angle D$ and be equal

21. Using transformations, justify why $\overline{BC} \cong \overline{DC}$ **(Be specific, reflections are defined by lines, rotations are defined by centers and degrees of rotation)**

when making 180° rototation the segments will land onto of itself and be equal in length