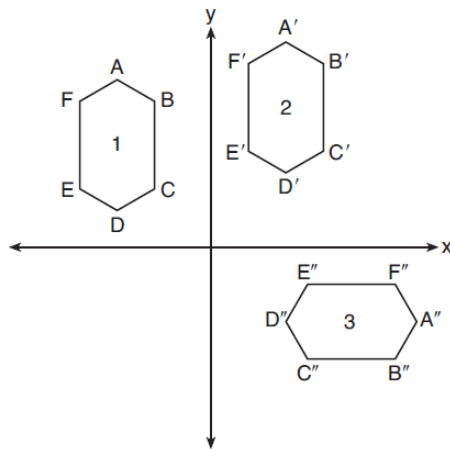


Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Class: \_\_\_\_\_

Geometry  
 Unit 5  
 HW 5-5

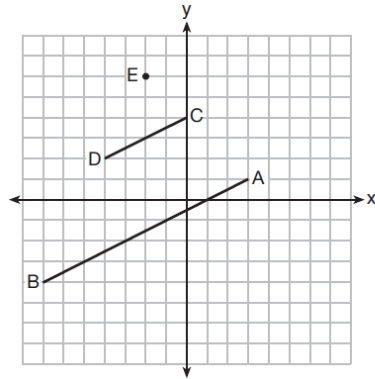
- 1) Which capital letters have a horizontal line of symmetry?
- 2) Which capital letters has a vertical line of symmetry?
- 3) Which capital letters have rotational symmetry (list the number of degrees)?
- 4) The vertices of  $\triangle JKL$  have coordinates  $J(5,1)$ ,  $K(-2,-3)$ , and  $L(-4,1)$ . Under which transformation is the image  $\triangle J'K'L'$  *not* congruent to  $\triangle JKL$ ?
  - (1) a translation of two units to the right and two units down
  - (2) a counterclockwise rotation of 180 degrees around the origin
  - (3) a reflection over the  $x$ -axis
  - (4) a dilation with a scale factor of 2 and centered at the origin
- 5) In the diagram below, congruent figures 1, 2, and 3 are drawn.



Which sequence of transformations maps figure 1 onto figure 2 and then figure 2 onto figure 3?

- (1) a reflection followed by a translation
  - (2) a rotation followed by a translation
  - (3) a translation followed by a reflection
  - (4) a translation followed by a rotation
- 6) If  $\triangle ABC$  is dilated by a scale factor of 3, which statement is true of the image  $\triangle A'B'C'$ ?
- |                  |                                 |
|------------------|---------------------------------|
| (1) $3A'B' = AB$ | (3) $m\angle A' = 3(m\angle A)$ |
| (2) $B'C' = 3BC$ | (4) $3(m\angle C') = m\angle C$ |

- 7) In the diagram below,  $\overline{CD}$  is the image of  $\overline{AB}$  after a dilation of scale factor  $k$  with center  $E$ .



Which ratio is equal to the scale factor  $k$  of the dilation?

- (1)  $\frac{EC}{EA}$                       (3)  $\frac{EA}{BA}$   
 (2)  $\frac{BA}{EA}$                       (4)  $\frac{EA}{EC}$

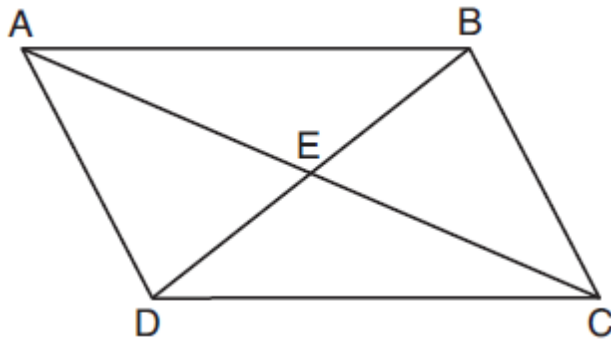
- 8) The line  $3y = -2x + 8$  is transformed by a dilation centered at the origin. Which linear equation could be its image?

- (1)  $2x + 3y = 5$                       (3)  $3x + 2y = 5$   
 (2)  $2x - 3y = 5$                       (4)  $3x - 2y = 5$

9)

After a reflection over a line,  $\triangle A'B'C'$  is the image of  $\triangle ABC$ . Explain why triangle  $ABC$  is congruent to triangle  $A'B'C'$ .

10)



Describe a single rigid motion that maps  $\triangle AED$  onto  $\triangle CEB$ .