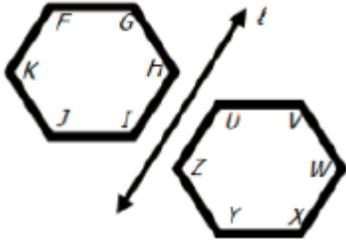
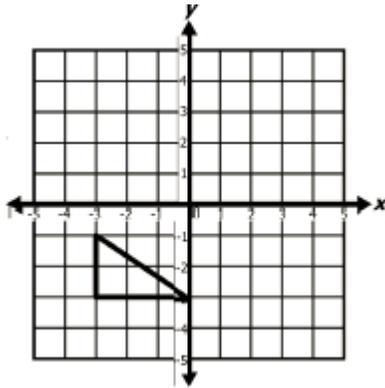


1) Hexagon FGHIJK is reflected over line  $l$ . Which line segment on the new hexagon corresponds to segment  $\overline{GH}$ ?



- A)  $\overline{UV}$       B)  $\overline{VW}$       C)  $\overline{WX}$       D)  $\overline{YZ}$

3) If the triangle is dilated by a scale factor of 2, what would be the coordinates of the dilated triangle?

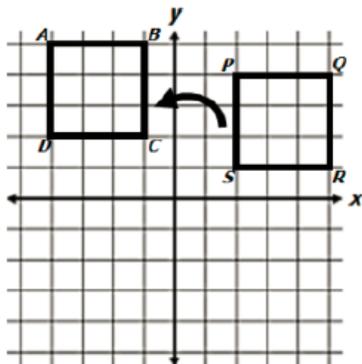


- A)  $(-6, -1), (0, -3), (-6, -3)$   
 B)  $(-6, -2), (0, -6), (-6, -6)$   
 C)  $(-3, -2), (0, -6), (-3, -6)$   
 D)  $(-2, -6), (-6, 0), (-6, -6)$

4) Which statement is **not true** about two congruent figures?

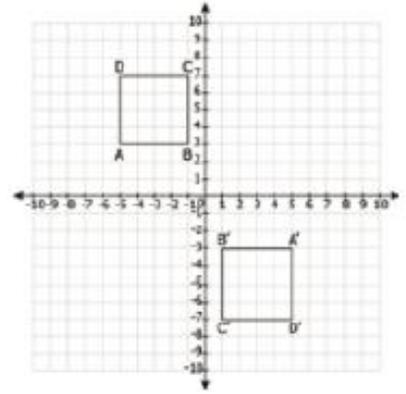
- A) The areas of the figures are equal.  
 B) The perimeters of the figures are equal.  
 C) One can be transformed into the other by a series of translations, rotations, and reflections.  
 D) One can be transformed into the other by a series of translations, rotations, reflections, and dilations with a scale factor not equal to 1.

6) Square PQRS is rotated counterclockwise  $90^\circ$  about the origin. Which side in the new square corresponds to side QR?



- A) side AB  
 B) side BC  
 C) side CD  
 D) side DA

2) The graph represents two squares ABCD and A'B'C'D'. Which of these statements is true?



A) ABCD and A'B'C'D' are congruent since a  $180^\circ$  clockwise rotation of ABCD about the origin gives A'B'C'D'.

B) ABCD and A'B'C'D' are congruent since a  $90^\circ$  clockwise rotation of ABCD about the origin gives A'B'C'D'.

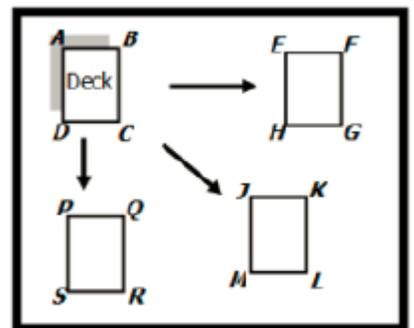
C) ABCD and A'B'C'D' are congruent since a  $270^\circ$  clockwise rotation of ABCD about the origin gives A'B'C'D'.

D) ABCD and A'B'C'D' are congruent since a  $90^\circ$  counter-clockwise rotation of ABCD about the origin gives A'B'C'D'.

5) Quadrilateral ABCD has vertices  $A(2,2)$ ,  $B(4,5)$ ,  $C(7,5)$ , and  $D(5,2)$ . If ABCD is dilated by a scale factor of 2, what will be the coordinates of A'?

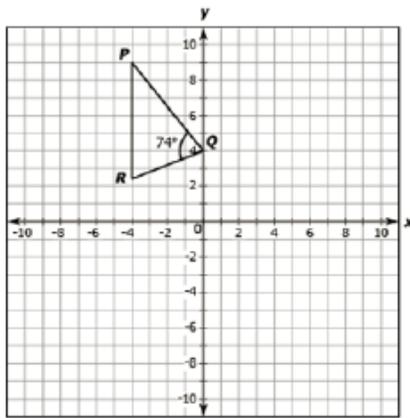
- A)  $(4, 4)$   
 B)  $(1, 1)$   
 C)  $(4, 2)$   
 D)  $(2, 4)$

7) Some playing cards are passed out from a deck. Which side corresponds to side BC?



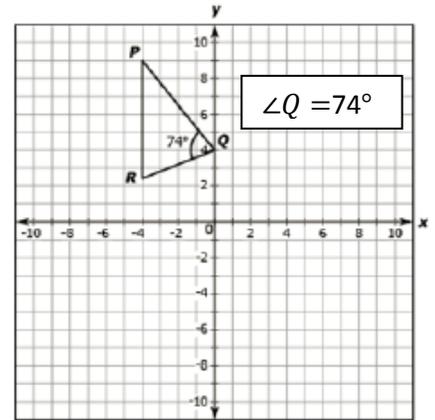
- A) side AB  
 B) side EF  
 C) side KL  
 D) side RS

8) Consider the triangle PQR shown, where line segment PQ is approximately 6.4 units. A triangle P'Q'R' is obtained by reflecting the triangle PQR across the x-axis. What is the measure of line segment P'Q'?



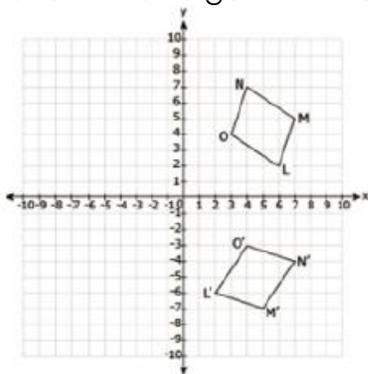
- A) -12.8 units
- B) -6.4 units
- C) 6.4 units
- D) 12.8 units

9) Consider the triangle PQR shown. A triangle P'Q'R' is obtained by reflecting the triangle PQR across the y-axis. What is the measure of the angle P'Q'R'?



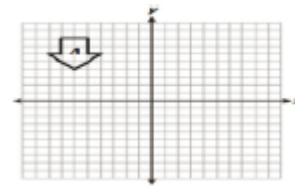
- A)  $16^\circ$
- B)  $74^\circ$
- C)  $106^\circ$
- D)  $148^\circ$

10) In the graph below, figure LMNO is congruent to figure L'M'N'O'. Which transformation needs to be applied to LMNO to get L'M'N'O'?



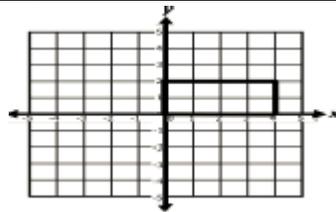
- A) Figure LMNO is rotated  $90^\circ$  clockwise about the origin (0,0).
- B) Figure LMNO is reflected across the x-axis.
- C) Figure LMNO is translated 1 unit to the right and 7 units down.
- D) Figure LMNO is dilated by a factor of 2.

11) Figure A is rotated  $90^\circ$  clockwise. Which figure is the result of this transformation?



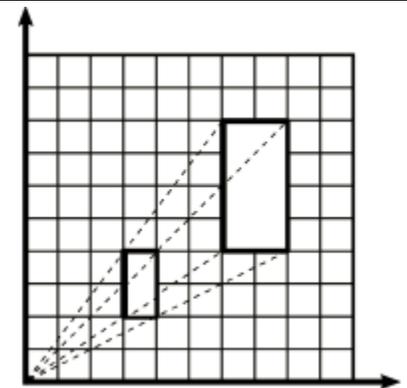
- A)
- B)
- C)
- D)

12) Laney rotated the rectangle shown in the coordinate grid  $90^\circ$  clockwise about the origin. Choose the correct rotated figure.



- A)
- B)
- C)
- D)

13) The larger rectangle is a dilation of the smaller rectangle. Which choice best describes the dilation? (Hint: Choose corresponding points, write their coordinates, then determine the scale factor used.)



- A)  $(x, y) \rightarrow (2x, 2y)$
- B)  $(x, y) \rightarrow (x + 2, y + 2)$
- C)  $(x, y) \rightarrow (0.5x, 0.5y)$
- D)  $(x, y) \rightarrow (x + 4, y + 4)$

<p>14) The length of a rectangle is 5 cm more than twice the width. The perimeter of the rectangle is 34 cm. What is the length of the rectangle?</p> <p>A) 13 cm                      B) 4 cm</p> <p>C) 34 cm                      D) 52 cm</p>	<p>15) Using the dimensions from the rectangle in problem 14, what is the area?</p> <p>A) 13 cm<sup>2</sup>                      B) 4 cm<sup>2</sup></p> <p>C) 34 cm<sup>2</sup>                      D) 52 cm<sup>2</sup></p>
<p>16) What do the two linear equations have in common?</p> $-4x + 10y = -4$ $-2 - 2x = 5y$ <p>A) They are intersecting lines.  B) They are perpendicular lines.  C) They are parallel lines.  D) They are the same line.</p>	<p>17) Consider the system of equations. Which coordinate point represents the solution to the system?</p> $y = 3x + 1$ $y = 2x - 4$ <p>A) (-5, -14)                      B) (1, -4)  C) (2, 3)                              D) (3, 10)</p>
<p>18) Two angles are supplementary (sum of two angles equals 180). The measure of one angle is 10 more than three times the other. Find the measure of the bigger angle.</p> <p>A) 42.5°                              B) 137.5°  C) 180°                                D) 45°</p>	<p>19) The sum of two numbers is 36 and their difference is 8. Find the two numbers. What is the product of the two numbers?</p> <p>A) 36                                      B) 308  C) 14                                      D) 28</p>
<p>20) Translate the following sentence into an equation.  <b>The product of nine and [four less than n] is 27.</b></p> <p>A) <math>9n - 4 = 27</math>                      B) <math>9(n - 4) = 27</math>  C) <math>9(4 - n) = 27</math>                      D) <math>9 + 4 - n = 27</math></p>	<p>21) What is the correct first step to solve this system of equations?</p> $4x - 3y = -10$ $2x + 3y = 4$ <p>A) isolate one variable in one of the equations  B) subtract the two equations  C) multiply the second equation by 3  D) divide the first equation by 4</p>
<p>For the following match the correct vocabulary term to the definition.</p> <p>A) Substitution                      B) Solution of a System of Equations                      C) All Solutions                      D) No Solution</p>	
<p>22) Any ordered pair in a system that makes all equations true.</p>	<p>23) When equations are equal, meaning the graphs are of the same line.</p>
<p>24) When there is not a point of intersection between two graphed equations of lines.</p>	<p>25) Replacing a variable with an equivalent expression.</p>
<p>For the following match the correct vocabulary term to the definition.</p> <p>A) Image                      B) Reflection                      C) Dilation                      D) Translation                      E) Rotation</p>	
<p>26) A transformation that creates similar figures.</p>	<p>27) The figure resulting from a transformation.</p>
<p>28) A transformation that creates points that are equal distant from the line of symmetry.</p>	<p>29) A transformation where moving the point up 7 would result in <math>x+7</math>.</p>