Transformations

Name: _____ **Date:** _____

1. A point $(3, 5)$ is reflected over the x-axis. What are the coordinates of the image point?

   A. $(3, 0)$ B. $(3, -5)$

   C. $(-5, 3)$ D. $(-3, 5)$

2. Reflect the point $(-4, 1)$ across the line $y = -2$, then translate it horizontally five units in the positive direction. What are the intermediate and the final coordinates, respectively?

   A. $(0, 1)$, $(5, 1)$ B. $(0, 1)$, $(0, 6)$

   C. $(-4, -5)$, $(1, -5)$ D. $(-4, -1)$, $(1, -1)$

3. What is the image of $(-4, 1)$ after a rotation of 180° clockwise?

   A. $(-1, -4)$ B. $(1, 4)$

   C. $(4, -1)$ D. $(1, -4)$

4. What is the image of $(-2, 3)$ after a rotation of 90° clockwise?

   A. $(3, 2)$ B. $(2, 3)$

   C. $(3, -2)$ D. $(-2, -3)$

5. Reflect the point $(-1, 2)$ across the line $x = 3$, then translate it vertically two units in the negative direction. What are the intermediate and the final coordinates, respectively?

   A. $(-1, 4)$, $(-1, 2)$ B. $(-1, 4)$, $(-3, 4)$

   C. $(5, 2)$, $(5, 0)$ D. $(7, 2)$, $(7, 0)$

6. $\triangle ABC$, with vertices $A(2, 0)$, $B(3, 2)$ and $C(3, -1)$, is rotated 90° counterclockwise about the origin. What are the coordinates of the vertices of the rotated triangle?

   A. $A'(0, 2)$, $B'(-2, 3)$, $C'(1, 3)$

   B. $A'(0, 2)$, $B'(2, 3)$, $C'(-1, 3)$

   C. $A'(0, -2)$, $B'(-2, -3)$, $C'(1, -3)$

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

7. Find P', the image of $P(-3, 6)$, after a reflection across the line $y = x$.

   A. $(6, -3)$ B. $(3, 6)$

   C. $(-3, -6)$ D. $(6, 3)$

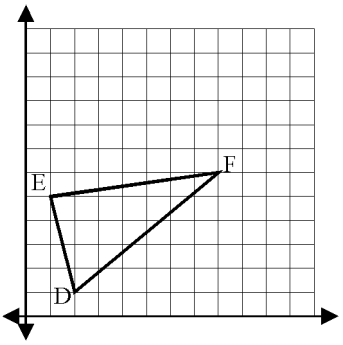
8. Jasmine is going to rotate the triangle one-quarter turn clockwise (90°), rotating about point D. What is the new coordinate for point E'?

   A. $(2, 3)$

   B. $(5, -5)$

   C. $(6, 2)$

   D. $(-5, 5)$



9. What are the coordinates of $(2, 3)$ after a translation down 3 units and then a rotation of 180° in a clockwise direction about $(0, 0)$?

   A. $(0, 2)$ B. $(-2, 0)$

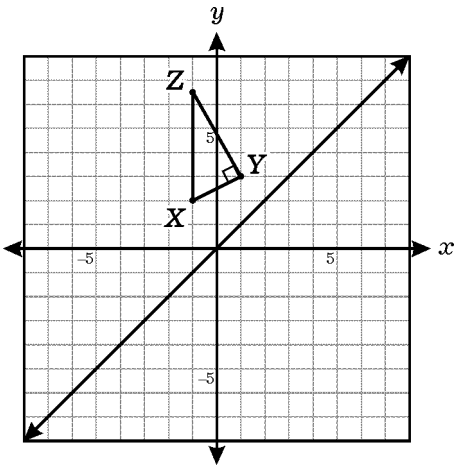
   C. $(2, 2)$ D. $(2, 0)$

10. If a point in Quadrant III is reflected in the x-axis, its image will lie in Quadrant _____.

A. I B. II C. IV

D. on the y-axis

11. In the coordinate plane, right triangle XYZ is reflected over the line $y = x$.



If the reflected image is triangle $X'Y'Z'$, what are the coordinates of right angle Y'?

A. $(3, 1)$ B. $(3, 0)$

C. $(1, -3)$ D. $(1, -2)$

12. If a point in Quadrant II is reflected in the y-axis, its image will lie in Quadrant _____.

A. I B. III C. IV

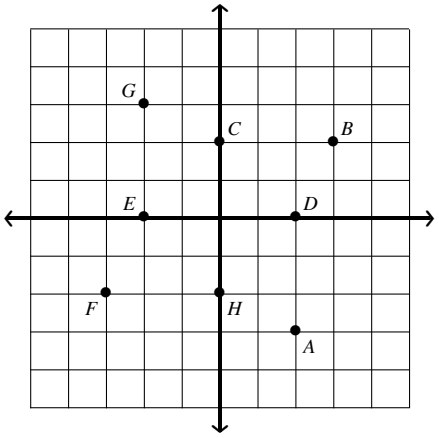
D. on the y-axis

13. What is the image of point $A(2, -3)$ after these three transformations?

I. a translation 2 units to the left and 5 units up;

II. A reflection in the x-axis; and

III. A 180° clockwise rotation about the origin



A. C B. E C. G D. H

14. A point $(2, 2)$ is reflected over the y-axis. What are the coordinates of the image point?

A. $(-2, 2)$ B. $(2, -2)$

C. $(0, 2)$ D. $(2, 0)$

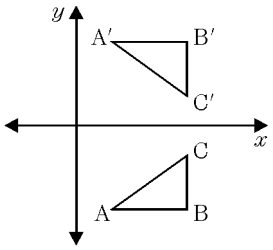
15. In the diagram, $\triangle A'B'C'$ is the image of $\triangle ABC$. Which type of transformation is shown?

A. reflection

B. rotation

C. translation

D. dilation



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1.
Answer: B
Objective: G.CO.2

2.
Answer: C
Objective: G.CO.2

3.
Answer: C
Objective: G.CO.2

4.
Answer: A
Objective: G.CO.2

5.
Answer: D
Objective: G.CO.2

6.
Answer: A
Objective: G.CO.2

7.
Answer: A
Objective: G.CO.2

8.
Answer: C
Objective: G.CO.2

9.
Answer: B
Objective: G.CO.2

10.
Answer: B
Objective: G.CO.2

11.
Answer: A
Objective: G.CO.2

12.
Answer: A
Objective: G.CO.2

13.
Answer: A
Objective: G.CO.2

14.
Answer: A
Objective: G.CO.2

15.
Answer: A
Objective: G.CO.5