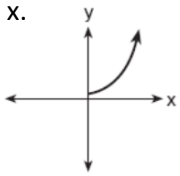
Geometry H Name : _____

Section 9.3 Reflections Homework Date : _____ Period : _____

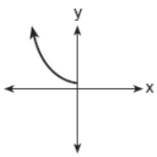
1. Point A is located at (4, -7). The point is reflected in the x-axis. Its image is located at:

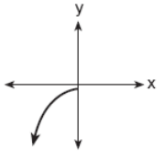
A) (-4, 7) B) (-4, -7) C) (4, 7) D) (7, -4)

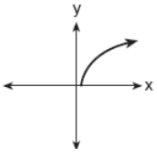
2. The accompanying graph shows the relationship between kinetic energy, y, and velocity, x.

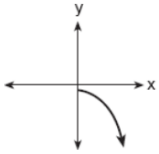


The reflection of this graph in the line y = x is:

A) 

B) 

C) 

D) 

3. What is the image of (x, y) after a translation of 3 units right and 7 units down?

A) (x, y) →(x+3, y – 7) B) (x, y) → (x+3, y +7)

C) (x, y) → (x – 3, y – 7) D) (x, y) → (x – 3, y+7)

4. A translation moves P(3, 5) to P'(6, 1). What are the coordinates of the image of point (-3, -5) under the same translation?

A) (0, -9) B) (-6, -1) C) (-5, -3) D) (-6, -9)

5. Which type of transformation is (x, y) → (x + 2, y – 2)?

A) dilation B) rotation C) translation D) reflection

6. Which transformation produces a figure that is always the mirror image of the original figure?

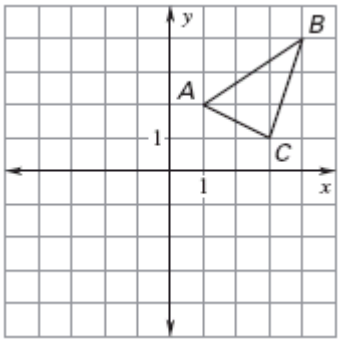
A) dilation B) rotation C) translation D) reflection

7. Which transformation does not always result in an image that is congruent to the original figure?

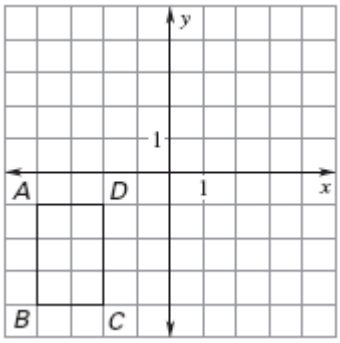
A) dilation B) rotation C) translation D) reflection

Graph the reflection of the polygon in the given line.

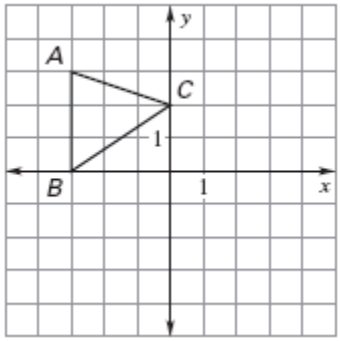
8. x-axis



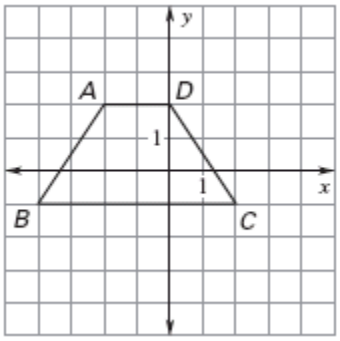
9. y – axis



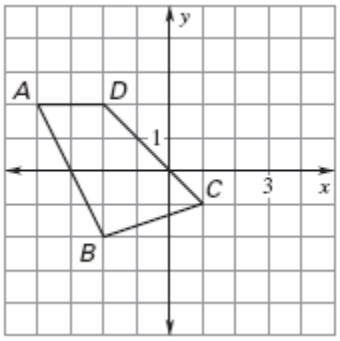
10. x = -1



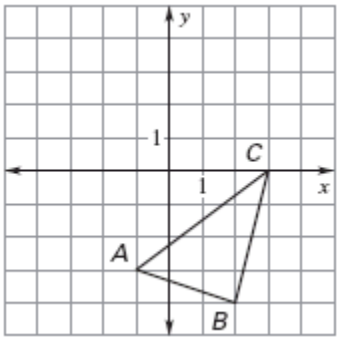
11. y = 1



12. y = -x



13. y = x



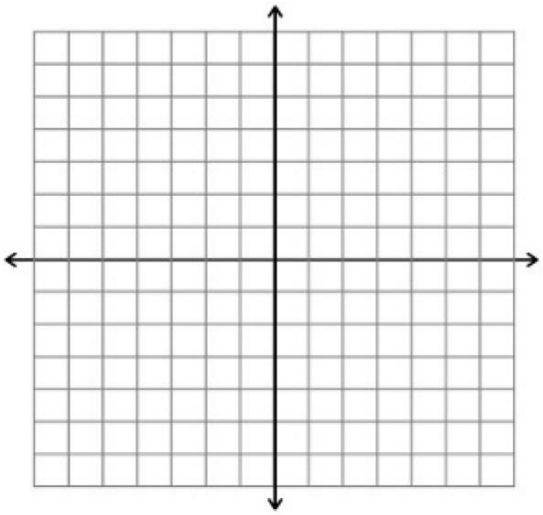
For questions #14 – 17, decide whether the conclusion is true or false.

14. If M(2, 3) is reflected in the line y = 4, then M' is (6, 3).

15. If N(-3, 1) is reflected in the line y = -2, then N' is (-1, 1).

16. If P(0, -2) is reflected in the line x = 2, then P' is (0, 6).

17. If Q(4, -3) is reflected in the line x = 2, then Q' is (0, -3).



Use the diagram to name the image of Segment 1 after the reflection.

18. Reflection in the x-axis

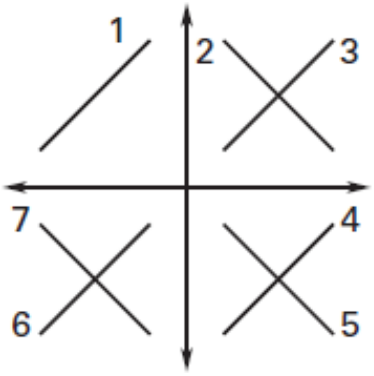
19. Reflection in the y-axis

20. Reflection in the line y = x

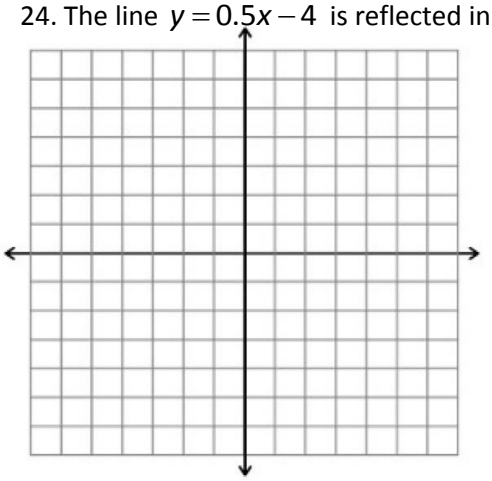
21. Reflection in the line y = -x

22. Reflection in the y-axis, followed by a reflection in the x-axis

23. Reflection in the x-axis, followed by a reflection in the y-axis

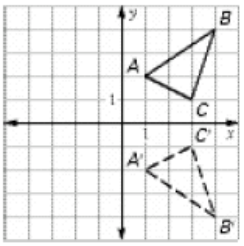


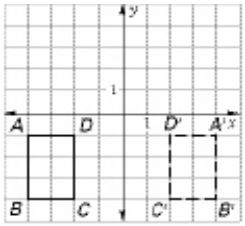
24. The line $y = 0.5x - 4$ is reflected in the line y = -2. What is the equation of the image?

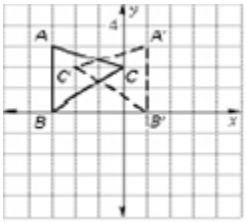


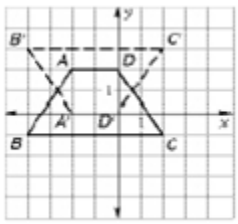
Answers:

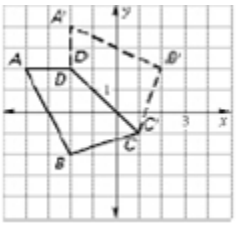
1. C 2. C 3. A 4. A 5. C 6. D 7. A

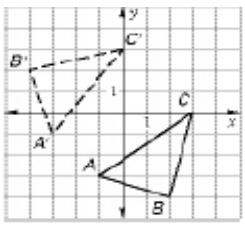
8. 

9. 

10. 

11. 

12. 

13. 

14. False 15. False 16. False 17. True

18. 7 19. 2 20. 4 21. 1

22. 4 23. 4 24. $y = \frac{1}{2}x$