Worksheet 4.4 Geometric transformations

1. Which transformation that takes place when all points on a plane are moved in the same direction through the same distance?

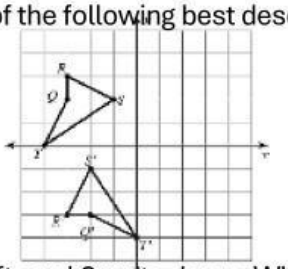
a. translation b. rotation c. reflection d. dilation

2. Which transformation that takes place when all points in a plane are flipped over in the same plane in a line?

a. translation b. rotation c. reflection d. dilation

3. An image on the right undergoes rotation, which of the following best describes the rule?

a. 90^0 clockwise rotation about the origin
b. 90^0 counterclockwise about the origin
c. 180^0 about the origin
d. both a and b



4. Given Pt. A (-1, -1) is being translated 3 units left, and 2 units down. What are the coordinates of the new image?

a. (-3, -1) b. (3, 2) c. (-4, -3) d. (2, 1)

5. Pt. X undergoes 90^0 clockwise rotation about the origin. Which of the following is not true?

a. The center of rotation is (0, 0). b. The rotation is the same as the hands of the clock.
c. The angle of rotation is a right angle. d. The mirror line is along with the x- axis

6. A transformation in which the image is turn.

a. rotation b. reflection c. translation d. dilation

7. A type of reflection in which the image is flipped over the y – axis is called _____ reflection.

a. horizontal b. diagonal c. vertical d. clockwise

8. Which of the following statements is/are true about transformation?

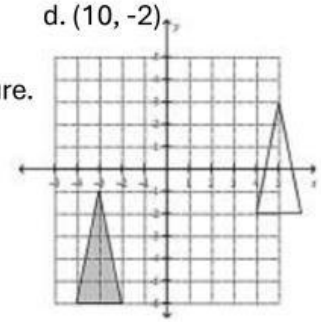
i. A transformation is a change in size, shape or direction.
ii. When an image is rotated as the same direction of the hands of a clock is called anti - clockwise rotation.
iii. An image is reflected with a mirror line.
iv. An image is translated under a vector.

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

9. Given Pt. M with coordinates (-2, 10) under a rotation of 180^0 about the origin, what are the coordinates of M'?

a. (10, 2) b. (2 , -10) c. (-10, 2) d. (10, -2)

10. Describe the translation from the shaded figure to the unshaded figure.



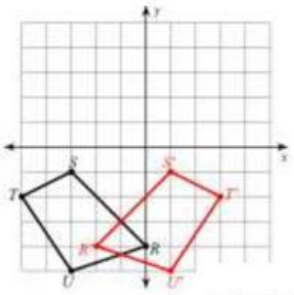
a. translate 6 units right and 4 units up
b. translate 4 units right and 2 units down
c. translate 8 units right and 4 units up
d. translate 6 units right and 2 units down

11. What is the name of the new figure formed by a transformation?

a. transformed b. pre – image c. image d. transformer

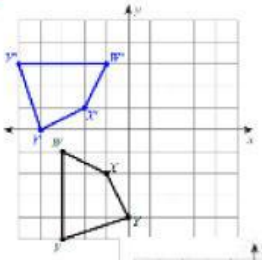
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12. What is the rule for the following reflection?



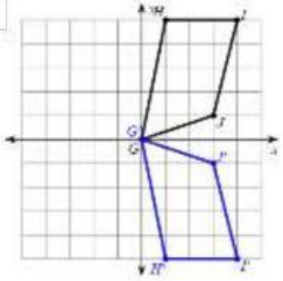
a. reflection across x – axis
b. reflection across y – axis
c. reflection across y = -4
d. reflection across x = -1

13. Which of the following describe the transformation below?



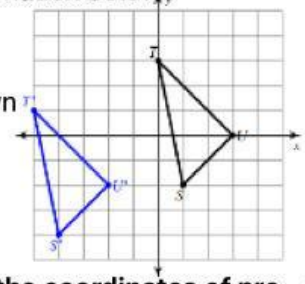
a. Rotation 90⁰ clockwise about the origin
b. Translation 2 units right and 4 units up
c. Reflection across x=1
d. Rotation 180⁰ about the origin

14. Which of the following describe the transformation below?



a. Rotation 180⁰ about the origin
b. Rotation 90⁰ counterclockwise about the origin
c. Reflection across y= 2
d. Reflection across the x-axis

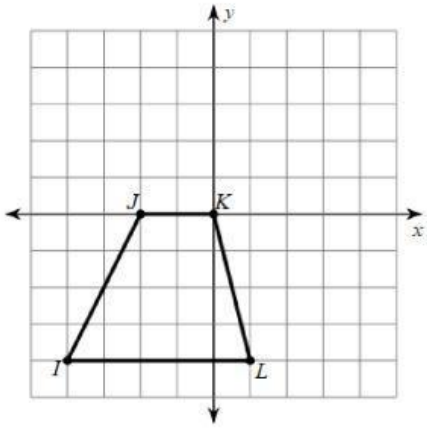
15. Which of the following describe the transformation below?



a. Reflection across x=1
b. Reflection across the x-axis
c. Translation 5 units left and2 units down
d. Rotation 180⁰ about the origin

For items 16 – 18, graph the image and write the coordinates of pre – image and the new image after transformation.

16. translation: 4 units right and 2 units up



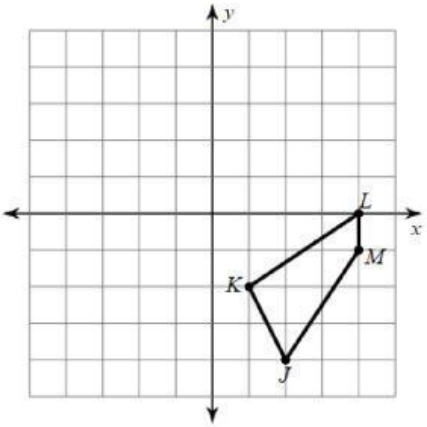
J(-2, 0) → J' (___, ___)

K (0, 0 → K'(___, ___)

L (1, -4)→ L' (___, ___)

I (-4, -4)→ I'(___, ___)

17. rotation 90° clockwise about the



K(1, -2) → K'(___, ___)

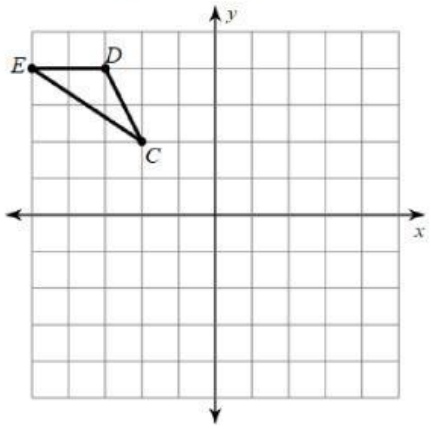
L(4, 0) → L'(___, ___)

M(4, -1) → M'(___, ___)

J (2, -4) → J' (___, ___)

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18. reflection across the y-axis



C (-2, 2) ⟶ C' (__, __)

D (-3, 4) ⟶ D'(__, __)

E (-5, 4) ⟶ E' (__, __)

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