**Write the correct vocabulary word next to the definition.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - formed where two lines or rays share an endpoint

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - Part of a line bounded by two distinct endpoints

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - an exact position or location in a given plane

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - two lines that have unique points and never cross

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - a portion of a line that starts at a point and continues to infinity

6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - the set of points on a plane at a certain distance, or radius from a single
 point, the center

7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - creates four right angles

**Find each geometry term in the diagram. Label using correct notation.**

8. Ray: \_\_\_\_\_\_\_\_\_\_ 12. Circle: \_\_\_\_\_\_\_\_\_\_\_

9. Line: \_\_\_\_\_\_\_\_\_\_\_ 13. Line Segment: \_\_\_\_\_\_\_\_\_\_\_

10. <1: \_\_\_\_\_\_\_\_\_\_\_ 14. Parallel Lines: \_\_\_\_\_\_\_\_\_\_\_

11. <2: \_\_\_\_\_\_\_\_\_\_\_ 15. Perpendicular
 Lines: \_\_\_\_\_\_\_\_\_\_\_

**16. Use the translation (x, y) 🡪 (x – 4, y + 8) for questions a – d.**

a. What is the translation vector? \_\_\_\_\_\_\_\_\_\_

b. What is the image of A (-5, -4)? \_\_\_\_\_\_\_\_\_\_

c. What is the image of A’’ (use part b)? \_\_\_\_\_\_\_\_\_\_

d. What is the pre-image of B’ (14, 8)? \_\_\_\_\_\_\_\_\_\_

**Write the translation vector, line of reflection,** **or degree & direction of rotation for the following graphs.**

 17. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 18. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 19. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**20. Write your rules for the following transformations:**

 a. Translation right h units and down k units: (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b. Reflection over the x-axis: (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c. Reflection over the y-axis: (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 d. Reflection over the line y = x: (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 e. Reflection over the line y = -x: (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 f. Rotation 90 degrees CW: (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 g. Rotation 90 degrees CCW: (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 h. Rotation 180 degrees: (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**21. The vertices of** $∆$**ABC are A(2, -4), B(0, 6), and C(-5, 3). Find the vertices of** $∆$**A’B’C’ given the transformation rules below. These describe the transformation that occurred.**

1. (x, y) 🡪 (x – 8, y – 3) A’ = \_\_\_\_\_\_\_\_\_\_ , B’ = \_\_\_\_\_\_\_\_\_\_ , C’ = \_\_\_\_\_\_\_\_\_\_

 Transformation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. (x, y) 🡪 (x, -y) A’ = \_\_\_\_\_\_\_\_\_\_ , B’ = \_\_\_\_\_\_\_\_\_\_ , C’ = \_\_\_\_\_\_\_\_\_\_

 Transformation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. (x, y) 🡪 (-y, -x) A’ = \_\_\_\_\_\_\_\_\_\_ , B’ = \_\_\_\_\_\_\_\_\_\_ , C’ = \_\_\_\_\_\_\_\_\_\_

 Transformation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. (x, y) 🡪 (y, x) A’ = \_\_\_\_\_\_\_\_\_\_ , B’ = \_\_\_\_\_\_\_\_\_\_ , C’ = \_\_\_\_\_\_\_\_\_\_

 Transformation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. (x, y) 🡪 (-x, y) A’ = \_\_\_\_\_\_\_\_\_\_ , B’ = \_\_\_\_\_\_\_\_\_\_ , C’ = \_\_\_\_\_\_\_\_\_\_

 Transformation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. (x, y) 🡪 (y, -x) A’ = \_\_\_\_\_\_\_\_\_\_ , B’ = \_\_\_\_\_\_\_\_\_\_ , C’ = \_\_\_\_\_\_\_\_\_\_

 Transformation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Follow the instructions for each graph.**

22. Reflection across y = -x. 23. Rule: (x, y) 🡪 (x – 2, y + 4) 24. Reflection across y = -1.

25. Reflection across x = -2. 26. Rotation 180 degrees 27. Rule: (x, y) 🡪 (y, x)



28. Rotation 90 degrees CW 29.  30. Rule: (x, y) 🡪 (-x, y)

