**Geometry Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**TEST REVIEW – Transformations Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_**

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

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

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

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

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

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

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

7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - two angles whose sum is 90 degrees.

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

8. Ray: \_\_\_\_\_\_\_\_\_\_ 9. Circle: \_\_\_\_\_\_\_\_\_\_\_

10. Line: \_\_\_\_\_\_\_\_\_\_\_ 11. Line Segment: \_\_\_\_\_\_\_\_\_\_\_

12. <1: \_\_\_\_\_\_\_\_\_\_\_ 13. <2: \_\_\_\_\_\_\_\_\_\_\_

**Solve for x and find the measures of both angles.**

14. <1 and <2 are supplementary. <1 = 8x – 14 and <2 = 2x + 54

15. <3 and <4 are congruent. <3 = 12x – 22 and <4 = 8x + 42

**16. Use the translation (x, y) 🡪 (x + 1, y - 7) for questions a – d.**

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

b. What is the image of A (10, -4)? \_\_\_\_\_\_\_\_\_\_

c. What is the image of A’ from part b (which would be called A”)? \_\_\_\_\_\_\_\_\_\_

d. What is the pre-image of C’ (-9, 12)? \_\_\_\_\_\_\_\_\_\_

17. What is an isometry? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18. The vertices of** $∆$**ABC are A(-1. 0), B(5, 3), and C(2, -4). Find the vertices of** $∆$**A’B’C’ given the transformation rules below. Then describe the transformation that occurred.**

1. (x, y) 🡪 (x + 11, y – 5) 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) 🡪 (4x, 4y) A’ = \_\_\_\_\_\_\_\_\_\_ , B’ = \_\_\_\_\_\_\_\_\_\_ , C’ = \_\_\_\_\_\_\_\_\_\_

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

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

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

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

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

**19. Answer the following questions.**

1. After a reflection over the line , (-2, 16) is the image of point C. What is the original location of point C?
2. After a reflection over the x-axis, (8, 0) is the image of point M. What is the original location of point M?
3. Given triangle FUN with coordinates F(-4, 1), U(11, -12) and N(-7, -9), find the image of point N after a rotation of 90 degrees counterclockwise.
4. After a dilation with a scale factor of ½, (5, -4) is the **image** of point N. What is the original location of point N?

**20. Write the transformation rule for the following graphs.**

a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**Follow the instructions for each graph.**

21. Reflection over x = 1 22. Rotation 90 degrees CW 23. Reflection over y = -x



24. <2, 3> 25. (x, y) 🡪 (x, y – 4 ) 26. (x, y) 🡪 (0.5x, 0.5y)



**Composition of Transformations**

(Label the first transformation with $∆$A’B’C’. After the second transformation, label it with $∆$A”B”C”.)

27. a. rotation 180 degrees 28. a. dilation of 2

 b. reflection over y = -1 b. <1, -2>



 V’ \_\_\_\_\_\_\_\_ V” \_\_\_\_\_\_\_\_ H’ \_\_\_\_\_\_\_\_ H” \_\_\_\_\_\_\_\_

 U’ \_\_\_\_\_\_\_\_ U” \_\_\_\_\_\_\_\_ I’ \_\_\_\_\_\_\_\_ I” \_\_\_\_\_\_\_\_

 T’ \_\_\_\_\_\_\_\_ T” \_\_\_\_\_\_\_\_ J’ \_\_\_\_\_\_\_\_ J” \_\_\_\_\_\_\_\_

GOOD LUCK STUDYING!!!! Don’t forget to study your notes, your quiz, and this test review!!!