**Ch 4 PRACTICE TEST Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_ Period \_\_\_**

**Transformations**

1) Graph and label a triangle with vertices at

 A(-4, -7), B(-5, 1), and C(0, -3).

2) Translate the triangle using the vector $\left〈 9,-2 \right〉$

3) Graph triangle ABC with the listed vertices. LABEL THE POINTS. Then reflect that triangle across the x axis. Give the coordinates of the image vertices.

 **ΔABC** **Reflection Δ A’B’C’**

 A(3,4) A’:

 B(-4, 5) B’:

 C(-7, 0) C’:

4) Draw a dilation with a scale factor of 1/2 for the triangle with vertices M(-10, 8), V(-6, -4), and P(8, 0).

5) Draw a triangle with vertices at

 P(-1, 4), B( -7, 4), J( -6, 8)

 6) Rotate PBJ 270° counterclockwise, or 90° clockwise, to produce P’B’J’.

 P’( ) B’( ), J’( )

7) Reflect P’B’J’ over the x-axis to produce P”B”J”.

 P’’( ) B’’( ), J’’( )

8) Points Q(5,-2) and P(12, 0) are transformed using  **G**(x,y) = (2y, x−5). Give the coordinates of Q’ and P’.

 Q’ ( ) P’ ( )

9) Draw a triangle with vertices at

 C(4,-1), P( 2, -2), R( 3, -5)

 C’( ) P’( ), R’( )

Use the transformation T(x,y) = (-2x, -2y) to rotate and dilate the triangle. Calculate the coordinates of C’P’R’ and then graph. Be sure that the new triangle is similar to the old one.

10) A photo which is 4 inches wide by 9 inches high is going to be scaled up to fit in a frame which is 22 inches wide.

 a) What scale factor is needed, and what is going to be the height of the enlarged photo?

 b) What is the ratio of the new area to the old area?