**Name: _____     Pd. ____     Unit 2 Test Study Guide**
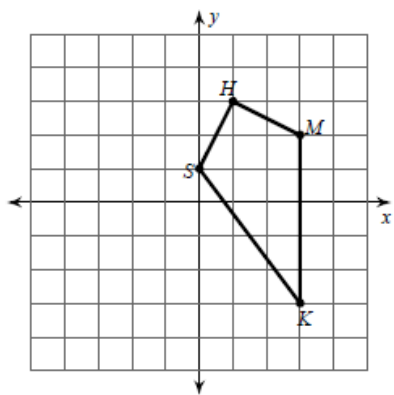
Transformations

1. Transform HSMK according to (x, y) → (x + 1, y – 2).
   a. Graph the image
   b. Write the coordinates of the image:

   H' _____   S' _____   M' _____   K' _____

   c. Describe the transformation in words:

2. ΔABC has coordinates A(4, -6), B(2, 1), C(-10, 4) and undergoes a dilation with a scale factor of ½ centered at the origin.  Give the coordinates of the image.

   A' _____   B' _____   C' _____

3. Reflect ∠PDQ across the y-axis.  Graph the image and state the coordinates.
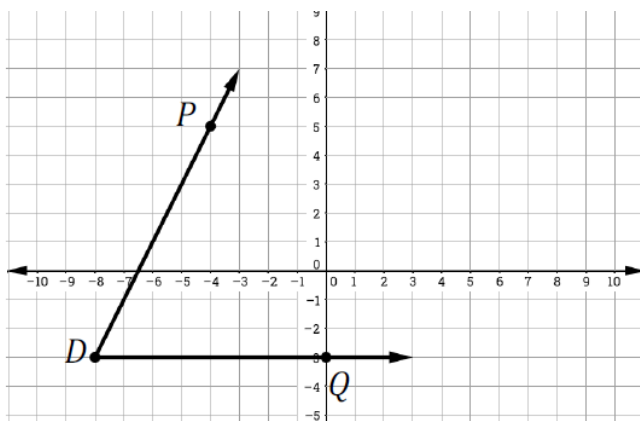
   P' _____   D' _____   Q' _____

4. ΔRST has coordinates R(4, -2), S(7, 1), T(-2, 6) and undergoes a 90° clockwise rotation about the origin. Identify the coordinates of ΔR'S'T'.

   a)   R'(4, 2), S'(7, -1), T'(-2, -6)
   b)   R'(-2, -4), S'(1, -7), T'(6, 2)
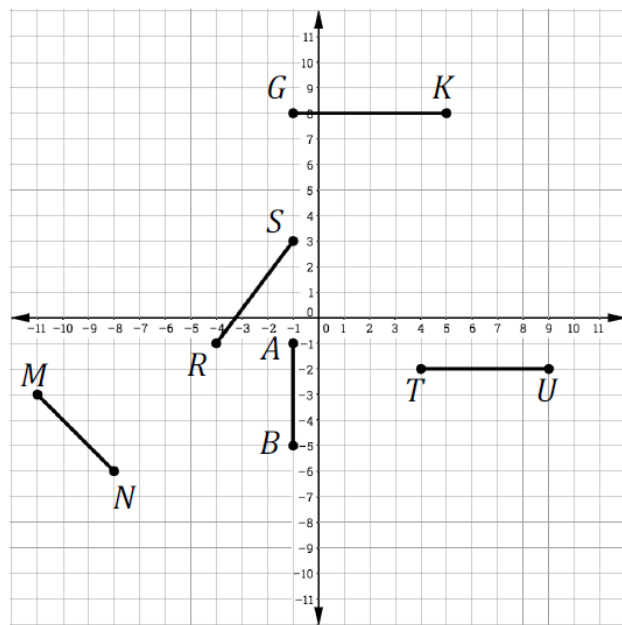   c)   R'(-2, 4), S'(1, 7), T'(6, -2)
   d)   R'(-2, 4), S'(-1, 7), T'(-6, -2)

5. TU was transformed.  Match TU with the image segment that was produced after the indicated transformation.

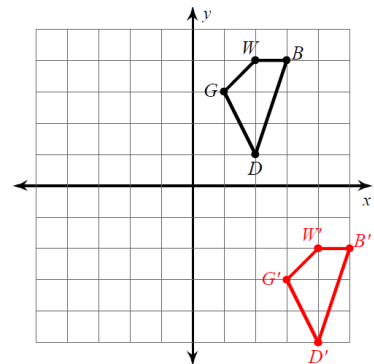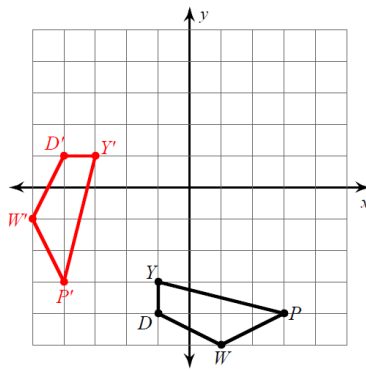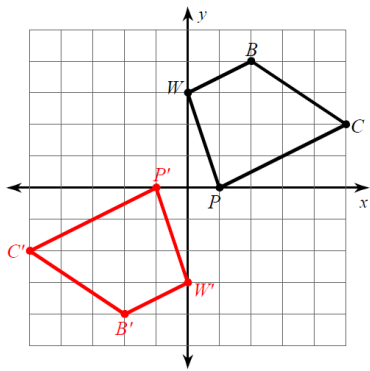   | A) Translation | I.   GK |
   | B)  Rotation | II.  RS |
   | C) Dilation | III. AB |

   Part 2: Draw a reflection of TU over the x-axis.

6. Point A becomes A' after the following algebraic description was applied (x,y) → (x – 5, y + 2). A' is (3, - 4).  What is the pre-image A?

7. Identify the transformation that took place (be specific).



8. What is the scale factor and center of the dilation pictured?

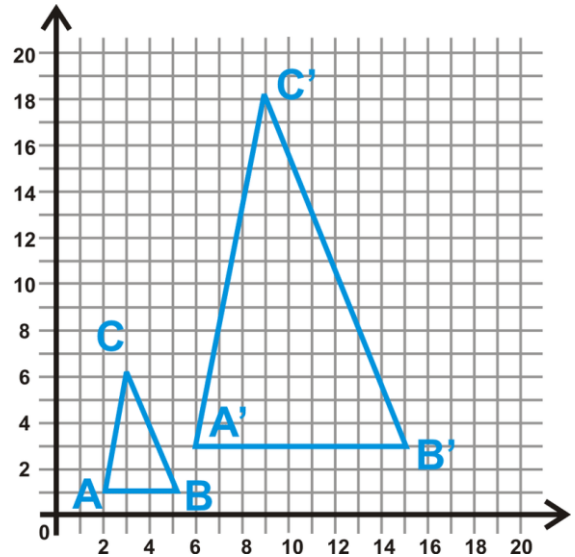   Scale factor: _____     Center: _____



9. HMKS maps onto H'M'K'S'. H(1,3) M (3,3) K(3, -3) (S(0,1), H'(-1, 3) M'(-3, 2) K'(-3,-3) S'(0,1). What is the line of reflection that maps the pre-image onto the image?

10. If B (-1, 4) maps onto B' (-5, 7) after a translation of $T_{h,k}$. What are the values of h and k?
    h = _____
    k = _____

11. List the 3 types of rigid transformations:

12. Segment PQ has coordinates P(2, -4) Q(-1, 5). After a dilation centered at (0, 0), the coordinates of P'Q' are P'(6, -12) and Q'(-3, -15). Write an algebraic description for the transformation that took place.

13. Use the graph paper to rotate ΔABC with A(-5,4) B(-3,4) and C(-3,-1) 180° counterclockwise. Graph the pre-image and image.

14. What are the coordinates of ABCD A(-5,1) B(-3,4) C(-1,3) D(-1,2) after a reflection in the line y=x?

    A' _____ B' _____ C' _____ D' _____
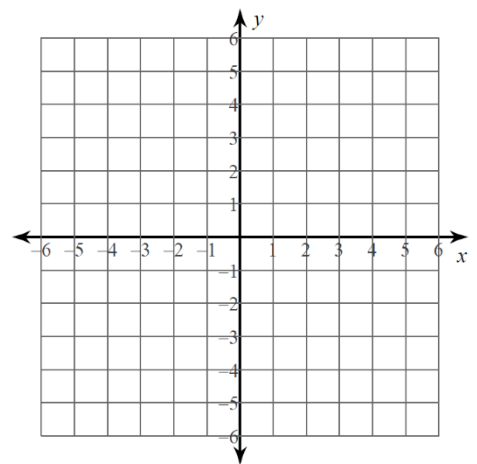


15. Give the endpoints of RT with R(-2, 1) and T(3, -6) after a dilation of ½ centered at (3, 4).

    R' _____ T' _____

***If you use additional graph paper, make sure you staple it to the back of this handout.***