**Math 9 Open Book Assignment #1**

**Reflections**

1. Describe (in words) the line of reflection in the following diagrams and draw in the line.
2. b)



1. Draw and label the image after the following reflections:
2. b)

**Translations**

1. Draw and label the image after the following translations

(x,y) 🡪 (x+5, y+6)



1. Identify the translation required to move from image LEB to L’E’B’

**Rotations**

1. Does this figure have rotational symmetry? If it does, state the **order** and **angle** of rotation.
2.  Draw a rotation of each of the following figures:
3. 180 clockwise around the origin b) 90˚ counter-clockwise around vertex Q



1. Describe the rotation shown below:
2. b)
3. State the order of rotation and angle of rotation for each figure shown below:



Order\_\_\_\_\_\_\_\_\_\_ Order\_\_\_\_\_\_\_\_\_\_ Order\_\_\_\_\_\_\_\_\_\_

Angle\_\_\_\_\_\_\_\_\_\_\_ Angle\_\_\_\_\_\_\_\_\_\_\_ Angle\_\_\_\_\_\_\_\_\_\_\_

**Scale Factor and Similarity**

1. A right triangle with side lengths 10 cm, 24 cm, and 26 cm is enlarged to the dimensions of a right triangle with sides of lengths 20 cm, 48 cm, and 52 cm. Calculate the **scale factor** of the enlargement.
2. A model house is 12 cm wide. If it was built with a scale factor of 3cm : 4m, then what are the dimensions of the real house?
3.  Calculate the value of x in each of the following diagrams:
4.   b) **\*\*\*this one is a challenge\*\*\***

x

4

9

6





c) d)

1. a) Which of the following four houses are similar?

\_\_\_\_\_\_ and ­­­­­\_\_\_\_\_\_\_



1. On the grid above, draw a house that is an enlargement of figure 1with a scale factor of 2.
2. On the grid above, draw a house that is a reduction of figure 2with a scale factor of 0.5
3.  A man 6 ft tall casts a shadow 12 ft long. He stands 168 ft away from the building of height H ft. If the shadows that are cast land (end) at the same point, then what is the height of the building?