**Station #4 - Geometric Figures – Copy this in your composition notebook!**

1. Draw a rectangle with a length of 4 inches and a width of 2.5 inches, using a ruler and protractor.
2. Draw a quadrilateral with one set of parallel sides and no right angles.
3. Draw a triangle using the following conditions:
   1. Triangle ABC:  The lengths of the sides are 3 inches, 4 inches and 5 inches.
   2. Triangle DEF:  The angles are 50, 30 and 100.
4. Is it possible for the lengths of a triangle to be 2, 3 and 5?  Explain your answer.
5. Is it possible to draw a triangle with a 90˚ angle and one leg that is 4 inches long and one leg that is 3 inches long? If so, draw one. If not, explain why not.
6. Is there more than one triangle that meets the conditions described in #5? Explain why or why not.
7. Draw a triangle with angles that are 60 degrees. Is this a unique triangle? Why or why not?
8. Draw an isosceles triangle with only one 80 degree angle:

Is this the only possibility or can you draw another triangle that will also meet these conditions?

1. Can you draw a triangle with sides that are 13 cm, 5 cm and 6cm? Explain.
2. Given the two side lengths, 6 and 7, what is the shortest possible length of the third side of a triangle?
3. Given the two side lengths, 6 and 7, what is the longest possible length of the third side of a triangle?
4. Draw a triangle where one angle is twice as large as another. Measure the third angle. What is the relationship between the three angles?

**Station #5**

**Triangle Combinations –Copy this in your composition notebook!**

1. Given the following angles:

10°, 15°, 30°, 35°, 65°, 70°, 75°, 80°, and 100°

Find all the possible angle combinations that will form a triangle. Precisely draw all possible triangles using a protractor and ruler.

1. Give three examples of angle combinations that **would not** form a triangle. Explain why each combination is impossible.
2. What criteria did you use to determine whether the angle measures would form a triangle?
3. Classify and label each triangle you created by angle type.
4. What criteria did you use to classify each triangle?

6) A square and a **regular** triangle share one common side. The perimeter of the square is 16 cm.

1. What is the perimeter of the triangle?
2. What is the measure of each angle of the triangle?
3. What is the angle type of the triangle?

7) Can you draw an obtuse triangle with two obtuse angles? If so, draw the figure. If not, explain why such a triangle is impossible.