**Geometry Chapter 9 and 13 Study Guide**

**1.** What is an isometry? How do we identify isometries after a transformation?

**2.** What is a pre-image? What is an image?

**3.** What is a translation? How do we describe a translation using ordered pairs? (Hint: how do we describe left/right and up/down)?

**4.** What is a reflection? Draw an example reflecting a figure in the coordinate plane across the x-axis and the y-axis.

**5.** What are the two types of symmetry? Draw examples of each type and explain how to identify each type.

**6.** What is a tessellation? What formula do we use in order to tell if a figure will tessellate? What are the four types of symmetry that can be found in tessellations? Define each of those four types of symmetry and know how to identify them.

**7.** What is dilation? How do we identify and use scale factors? (Hint: What do we do when it gets bigger? What do we do when it gets smaller?) Will dilation ever lead to an isometry? Why or why not?

**8.** What is experimental probability? What is the formula to find experimental probability?

**9.** What is probability of a complement? How do you find the probability of a complement?

**10.** What is relative frequency?

**11.** What are independent and dependent events? Give an example of each type of event.

**12.** How do you find the probability of events A and B, P(A and B)?

**13.** What does mutually exclusive mean and how do you find the probability of events A and B that are mutually exclusive?, P(A and B)?

**14.** How do you find the probability of overlapping events, P(A or B)? Give an example.

**15.** How do you find a conditional probability, P(B|A) read as “The probability of event B happening given that event A already happened.” Give an example.