**Geometry Chapter 5 Study Guide**

**1.** In a triangle, what is the relationship between the mid-segment and the third side (side of the triangle the midsegment does not touch)? Draw an example.

**2.** Describe what we can determine about distance from perpendicular bisectors.

**3.** Describe what we can determine about distance from an angle bisector.

**4.** How do you find the center of a circle you can circumscribe about a triangle on the coordinate plane? Draw an example.

**5.** Where is the center of the largest circle that you could draw inside a given triangle? (hint: point of concurrency for angle bisectors, perpendicular bisectors, medians, or altitudes)

**6.** Where can the perpendicular bisectors of a right triangle intersect? (hint: inside, outside, or on the triangle)

**7.** Where can the bisectors of the angles of an obtuse triangle intersect? (hint: inside, outside, or on the triangle)

**8.** What is the equation we can derive for the medians of a triangle?

**9.** What is the difference between medians and altitudes? Draw an example of each.

**10.** Where can the medians of a triangle intersect? (hint: inside, outside, or on the triangle)

**11.** Where can the lines containing the altitudes of an obtuse triangle intersect? (hint: inside, outside, or on the triangle)

**12.** What is a centroid?

**13.** What is the negation of a statement? Give an example.

**14.** What is the inverse of a statement? Give an example.

**15.** Where can we find the longest side of a triangle? Draw an example.

**16.** Where can we find the largest angle of a triangle? The smallest? Draw an example.

**17.** How do we determine what can be lengths of the sides of a triangle?

**18.** Two sides of a triangle have lengths of 10 and 15. What must be true about the length of the third side?