Name: *Kelly*   Date:_____

Geometry 2.3 and 2.5 Review

Identify the hypothesis and conclusion of each conditional statement.

1. If $3x + 4 = -5$, then $x = -3$.
   $\underbrace{}_{h}$ $\underbrace{}_{c}$

2. If you take a class in television broadcasting, then you will film a sporting event.
   $\underbrace{}_{h}$ $\underbrace{}_{c}$

Write the Statement in if-then form.

3. A polygon with four sides is a quadrilateral.

   If a polygon has four sides, then it is a quadrilateral

Determine the truth value of each conditional statement. If *true*, explain your reasoning. If *false*, give a counterexample.

7. If today is Wednesday, then yesterday was Friday.

   False, the day before wednesday is Tuesday

8. If a is positive, then $10a$ is greater than a.

   True

Write the converse, inverse, and contrapositive of each statement and tell whether it is true or false.

4. If two angles are complementary, then the sum of their measure is 90.

Converse: *If the sum of two angles measure is 90, the the angles are complementary*
(T)

Inverse: *If two angles are not complementary, then the sum of their measure*
(T)   *is not 90.*

Contrapositive: *If the sum of two angle measure is not 90, then the*
(T)   *angles are not complementary*

Determine whether the following statements are *always, sometimes,* or *never* true. Explain.

3. The intersection of two planes contains at least two points.

   Always, if 2 planes intersect, their intersection is a line. and a line consists of at least 2 points
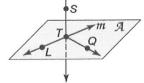
4. If three planes have a point in common, then they have a whole line in common.

   Never, a line consists of at least 2 points

In the figure, line *m* and $\overrightarrow{TQ}$ lie in plane $\mathcal{A}$. State the postulate that can be used to show that each statement is true.

5. Points *L*, and *T* and line *m* lie in the same plane.

   if 2 points lie in a plane, then the line containing those points lies in the plane.

6. Line *m* and $\overleftrightarrow{ST}$ intersect at *T*.

   If 2 lines intersect then their intersection is a line.