Geometry R – Mrs. Cowen
Unit 3 – Day 1 HW v2

Name:_____
Date: _____

1. **Write the definition or Theorem (informally):**

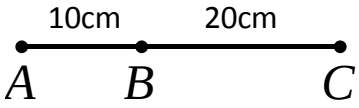
a. Right Angle:_____

b. Right Angle Theorem:_____

c. Segment Bisector:_____

2. **Explain why the statement is FALSE based on the provided picture. Write the negation of the statement.**

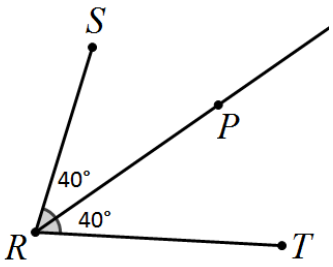
a. Statement: B is the midpoint of $\overline{CA}$.



FALSE because _____

Negation:_____
_____

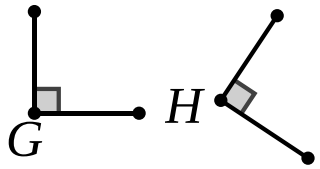
b. Statement: $\overline{PR}$ does not bisect $\angle SRT$



FALSE because_____

Negation: _____
_____

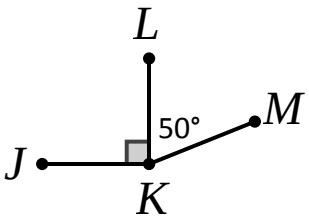
c. Statement: $\angle G$ is not congruent to $\angle H$.



FALSE because _____

Negation:_____
_____

d. Statement: $\angle JKL$ and $\angle MKL$ are supplementary.



FALSE because _____

Negation:_____
_____

3. Write a statement that is **logically equivalent** to the following conditional:

"If two angles are congruent, then they have the same measure."

4. **After each statement write Converse, Inverse, Contra-positive, or None based on the given conditional. Circle the statement that is logically equivalent to the given conditional.**

"If an angle is obtuse, then it is not 90^o."

a. If an angle is not obtuse, then it is 90^o. _____

b. If an angle is not obtuse, then it is not 90^o. _____

c. If an angle is 90^o, then it is not obtuse. _____

d. If an angle is not 90^o, then it is obtuse. _____

5. Re-write the bi-conditional as two separate conditional statements:

"*An angle is straight **if and only if** its measure is 180^o."*

Conditional #1: _____

Conditional #2: _____

6. **Write the Converse of each true conditional statement. If the converse is also true, combine the two statements into a single bi-conditional statement. If the converse is false, give an example to demonstrate that it is false.**

a. If two lines are perpendicular, then they intersect at a 90^o angle.

Converse: _____

Bi-Conditional or False example:

b. If two angles are adjacent, then they have the same vertex.

Converse: _____

Bi-Conditional or False Example:

Write the definition of each as a formal bi-conditional (…if and only if…)

17. Right Angle: _____

18. Midpoint: _____

19. Adjacent Angles: _____