

1. Write the definition or Theorem (informally):

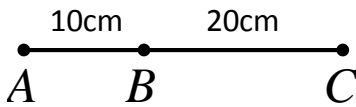
a. Right Angle: _____

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.

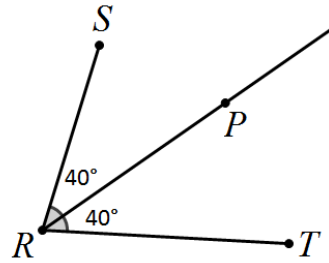
a. Statement: B is the midpoint of \overline{CA} .



FALSE because _____

Negation: _____

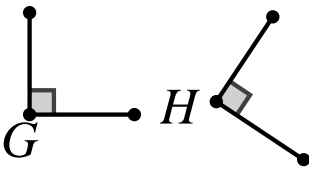
b. Statement: \overline{PR} does not bisect $\angle SRT$



FALSE because _____

Negation: _____

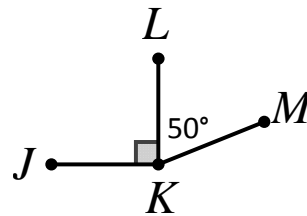
c. Statement: $\angle G$ is not congruent to $\angle H$.



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° ."

- a. If an angle is not obtuse, then it is 90° . _____
- b. If an angle is not obtuse, then it is not 90° . _____
- c. If an angle is 90° , then it is not obtuse. _____
- d. If an angle is not 90° , 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° ."*

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° 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: _____