Statements of Logic Worksheet

1. Write the converse, the inverse, and the contrapositive of each statement and determine the truth of each new statement.

 a. If each side of a triangle has a length of 10, then the triangle’s perimeter is 30.

 b. If an angle is acute, then it has a measure greater than 0 and less than 90.

2. If a conditional statement and its converse are both true, the statement is said to be *biconditional*. Which of these statements are biconditional?

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

 b. If two angles are straight angles, then they are congruent.

3. Rewrite the following statement in conditional form and write its converse, inverse, and contrapositive: “A square is a quadrilateral with four congruent sides.”

4. What conclusion can be drawn from the following?

 ~ c $⇒$ ~ f g $⇒$ b p $⇒$ f c $⇒$ ~ b

What is the lengthof the line segment whose endpoints are (1, 4) and (9, 2)?

In circle *O*, a diameter has endpoints (5, 4) and (3, 6). What is the length of the diameter?

To get from his high school to his home, Jamal

travels 5.0 miles east and then 4.0 miles north.

When Sheila goes to her home from the same high

school, she travels 8.0 miles east and 2.0 miles

south. What is the measure of the shortest

distance, to the *nearest tenth of a mile,* between

Jamal’s home and Sheila’s home? [The use of the

accompanying grid is optional.]

 