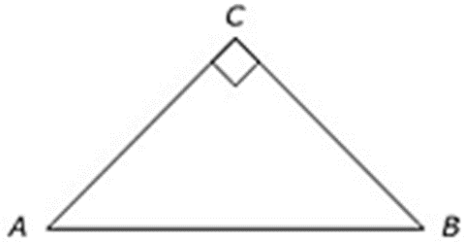
Possible Solutions

Patricia drew a triangle as shown below.



Each of the following could be measures for Angle A or B except

a. 63° because Angles A and B are obtuse and are larger than 90°.
b. 25° because Angles A and B are equivalent and 25 + 25 does not equal 90°.
c. 90° because it is impossible since the sum of all three angles must equal 180°.
d. 45° because Angles A and B are not equivalent.

This problem might be confusing for students if they have not begun to understand these new properties and WHY these statements are true or untrue. To solve, students must remember what they know about triangles and their 3 angles. The sum of the angles of a triangle will ALWAYS equal 180°.

Therefore, when they read each statement, they should know whether or not it can be correct. Here is why each one is incorrect, as well as the correct answer which is C.

a. This statement cannot be correct because Angles A and B are acute (smaller than 90°).
b. This statement cannot be correct because Angles A and B are not proven to be equivalent. The only way we would know this for certain is if the angles were said to be equivalent, or if we had the measure of the sides to prove they are equivalent. We have neither, so this cannot be the correct answer based on lack of proof.
c. This statement is correct because we know the 3rd angle measure is 90° (the square shows us this symbolically). Given that information, the other angles must measure less than 90°, because the sum of all 3 angles will be 180°.

d. This statement cannot be correct because we do not have enough proof to know that these angles are not congruent. We would need to know the angle measures or side lengths to determine this.