Geometry Practice: Converse and Biconditional #1

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NAME:_____

P.I. G.G.26: Identify and write the inverse, converse, and contrapositive of a given conditional statement and note the logical equivalences

1. Find the converse of "If it is a house, then it is a dwelling."

   [A] If it is a house, then it is not a dwelling.

   [B] If it is a dwelling, then it is a house.

   [C] If it is a dwelling, then it is not a house.

   [D] If it is not a house, then it is not a dwelling.

2. Find the converse of "If it is a rose, then it is a flower."

   [A] If it is a rose, then it is not a flower.

   [B] If it is a flower, then it is a rose.

   [C] If it is not a rose, then it is not a flower.

   [D] If it is a flower, then it is not a rose.

3. Give the converse of "If it is a pigeon, then it is a bird."

4. Give the converse of "If it is a box, then it is a container."

5. State Theorem 12-4 as a conditional: two segments tangent to a circle from a point outside the circle are congruent. Then state its converse.

6. Write as a conditional: two inscribed angles that intercept the same arc are congruent. Then write its converse. Do you think the converse is true? Give an example to justify your answer.

7. True or False: Even if a conditional statement is true, its converse may be false.

8. True or False: If a conditional statement is true, its converse is true also.

9. True or False: The phrase "if and only if" means both the conditional and its converse are true.

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[1] B

[2] B

[3] If it is a bird, then it is a pigeon.

[4] If it is a container, then it is a box.

[5] If two segments are tangent to a circle from a point outside the circle, then they are congruent. If two segments drawn from a point outside the circle are congruent, then they are tangent to the circle.

[6] If two inscribed angles intercept the same arc, then they are congruent. Converse: if two inscribed angles are congruent, then they intercept the same arc. The converse is not true; check students' examples.

[7] true

[8] false

[9] true