

G.G.25: Compound Statements 4: Know and apply the conditions under which a compound statement (conjunction, disjunction, conditional, biconditional) is true

- 1 What is true about the statement “If two angles are right angles, the angles have equal measure” and its converse “If two angles have equal measure then the two angles are right angles”?
 - 1) The statement is true but its converse is false.
 - 2) The statement is false but its converse is true.
 - 3) Both the statement and its converse are false.
 - 4) Both the statement and its converse are true.
- 2 Given the statement: “If two sides of a triangle are congruent, then the angles opposite these sides are congruent.” Given the converse of the statement: “If two angles of a triangle are congruent, then the sides opposite these angles are congruent.” What is true about this statement and its converse?
 - 1) Both the statement and its converse are true.
 - 2) Neither the statement nor its converse is true.
 - 3) The statement is true but its converse is false.
 - 4) The statement is false but its converse is true.
- 3 Given the statement: “If two lines are cut by a transversal so that the corresponding angles are congruent, then the lines are parallel.” What is true about the statement and its converse?
 - 1) The statement and its converse are both true.
 - 2) The statement and its converse are both false.
 - 3) The statement is true, but its converse is false.
 - 4) The statement is false, but its converse is true.
- 4 Which statement is an example of a biconditional statement?
 - 1) If Craig has money, he buys a car.
 - 2) Craig buys a car if and only if he has money.
 - 3) Craig has money or he buys a car.
 - 4) Craig has money and he buys a car.
- 5 Which statement is expressed as a biconditional?
 - 1) Two angles are congruent if they have the same measure.
 - 2) If two angles are both right angles, then they are congruent.
 - 3) Two angles are congruent if and only if they have the same measure.
 - 4) If two angles are congruent, then they are both right angles.
- 6 Given the statement: "A right angle measures 90° ." How is this statement written as a biconditional?
 - 1) If an angle is a right angle, then it measures 90° .
 - 2) An angle is a right angle if, and only if, it measures 90° .
 - 3) An angle measures 90° and it is a right angle.
 - 4) If an angle does not measure 90° , then it is not a right angle.

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| 1 | ANS: 1 | PTS: 2 | REF: 089912a |
| 2 | ANS: 1 | PTS: 2 | REF: 010112a |
| 3 | ANS: 1 | PTS: 2 | REF: 080205a |
| 4 | ANS: 2 | PTS: 2 | REF: 010923a |
| 5 | ANS: 3 | PTS: 2 | REF: 010627a |
| 6 | ANS: 2 | PTS: 2 | REF: 060730a |