

G.G.26: Inverse 1: Identify and write the inverse, converse, and contrapositive of a given conditional statement and note the logical equivalences

- 1 What is the inverse of the statement “If two triangles are not similar, their corresponding angles are not congruent”?
 - 1) If two triangles are similar, their corresponding angles are not congruent.
 - 2) If corresponding angles of two triangles are not congruent, the triangles are not similar.
 - 3) If two triangles are similar, their corresponding angles are congruent.
 - 4) If corresponding angles of two triangles are congruent, the triangles are similar.
- 2 What is the inverse of the statement “If it is sunny, I will play baseball”?
 - 1) If I play baseball, then it is sunny.
 - 2) If it is not sunny, I will not play baseball.
 - 3) If I do not play baseball, then it is not sunny.
 - 4) I will play baseball if and only if it is sunny.
- 3 What is the inverse of the statement “If Mike did his homework, then he will pass this test”?
 - 1) If Mike passes this test, then he did his homework.
 - 2) If Mike does not pass this test, then he did not do his homework.
 - 3) If Mike does not pass this test, then he only did half his homework.
 - 4) If Mike did not do his homework, then he will not pass this test.
- 4 What is the inverse of the statement “If Julie works hard, then she succeeds”?
 - 1) If Julie succeeds, then she works hard.
 - 2) If Julie does not succeed, then she does not work hard.
 - 3) If Julie works hard, then she does not succeed.
 - 4) If Julie does not work hard, then she does not succeed.
- 5 What is the inverse of the statement “If I do not buy a ticket, then I do not go to the concert”?
 - 1) If I buy a ticket, then I do not go to the concert.
 - 2) If I buy a ticket, then I go to the concert.
 - 3) If I go to the concert, then I buy a ticket.
 - 4) If I do not go to the concert, then I do not buy a ticket.
- 6 Which statement is the inverse of "If the waves are small, I do not go surfing"?
 - 1) If the waves are not small, I do not go surfing.
 - 2) If I do not go surfing, the waves are small.
 - 3) If I go surfing, the waves are not small.
 - 4) If the waves are not small, I go surfing.
- 7 Which statement is the inverse of “If $x + 3 = 7$, then $x = 4$ ”?
 - 1) If $x = 4$, then $x + 3 = 7$.
 - 2) If $x \neq 4$, then $x + 3 \neq 7$.
 - 3) If $x + 3 \neq 7$, then $x \neq 4$.
 - 4) If $x + 3 = 7$, then $x \neq 4$.

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Answer Section

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|---|--------|---------------|
| 1 | ANS: 3 | REF: 011028ge |
| 2 | ANS: 2 | REF: 060006a |
| 3 | ANS: 4 | REF: 010303a |
| 4 | ANS: 4 | REF: 060317a |
| 5 | ANS: 2 | REF: 080416a |
| 6 | ANS: 4 | REF: 010616a |
| 7 | ANS: 3 | REF: 061526ge |