

G.CO.C.9: Inverse, Converse and Contrapositive 1a

- 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 $x \neq 4$.
- 8 What is the converse of the statement "If it is sunny, I will go swimming"?
 - 1) If it is not sunny, I will not go swimming.
 - 2) If I do not go swimming, then it is not sunny.
 - 3) If I go swimming, it is sunny.
 - 4) I will go swimming if and only if it is sunny.
- 9 Which statement is the converse of "If it is a 300 ZX, then it is a car"?
 - 1) If it is not a 300 ZX, then it is not a car.
 - 2) If it is not a car, then it is not a 300 ZX.
 - 3) If it is a car, then it is a 300 ZX.
 - 4) If it is a car, then it is not a 300 ZX.

- 10 What is the converse of the statement "If it is Sunday, then I do not go to school"?
- 1) If I do not go to school, then it is Sunday.
 - 2) If it is not Sunday, then I do not go to school.
 - 3) If I go to school, then it is not Sunday.
 - 4) If it is not Sunday, then I go to school.
- 11 What is the converse of the statement "If Alicia goes to Albany, then Ben goes to Buffalo"?
- 1) If Alicia does not go to Albany, then Ben does not go to Buffalo.
 - 2) Alicia goes to Albany if and only if Ben goes to Buffalo.
 - 3) If Ben goes to Buffalo, then Alicia goes to Albany.
 - 4) If Ben does not go to Buffalo, then Alicia does not go to Albany.
- 12 What is the converse of the statement "If the Sun rises in the east, then it sets in the west"?
- 1) If the Sun does not set in the west, then it does not rise in the east.
 - 2) If the Sun does not rise in the east, then it does not set in the west.
 - 3) If the Sun sets in the west, then it rises in the east.
 - 4) If the Sun rises in the west, then it sets in the east.
- 13 What is the converse of the statement "If Bob does his homework, then George gets candy"?
- 1) If George gets candy, then Bob does his homework.
 - 2) Bob does his homework if and only if George gets candy.
 - 3) If George does not get candy, then Bob does not do his homework.
 - 4) If Bob does not do his homework, then George does not get candy.
- 14 Which statement is the converse of "If the sum of two angles is 180° , then the angles are supplementary"?
- 1) If two angles are supplementary, then their sum is 180° .
 - 2) If the sum of two angles is not 180° , then the angles are not supplementary.
 - 3) If two angles are not supplementary, then their sum is not 180° .
 - 4) If the sum of two angles is not 180° , then the angles are supplementary.
- 15 What is the converse of the statement "If x is an even integer, then $(x + 1)$ is an odd integer"?
- 1) x is not an even integer if and only if $(x + 1)$ is not an odd integer.
 - 2) x is an even integer if and only if $(x + 1)$ is an odd integer.
 - 3) If $(x + 1)$ is not an odd integer, then x is not an even integer.
 - 4) If $(x + 1)$ is an odd integer, then x is an even integer.
- 16 What is the converse of the statement "If $a^2 + b^2 = c^2$, then $\triangle ABC$ is a right triangle"?
- 1) If $\triangle ABC$ is a right triangle, then $a^2 + b^2 = c^2$.
 - 2) $a^2 + b^2 = c^2$ if, and only if, $\triangle ABC$ is a right triangle.
 - 3) If $\triangle ABC$ is not a right triangle, then $a^2 + b^2 = c^2$.
 - 4) If $a^2 + b^2 = c^2$, then $\triangle ABC$ is not a right triangle.

- 17 What is the converse of "If an angle measures 90 degrees, then it is a right angle"?
- 1) If an angle is a right angle, then it measures 90 degrees.
 - 2) An angle is a right angle if it measures 90 degrees.
 - 3) If an angle is not a right angle, then it does not measure 90 degrees.
 - 4) If an angle does not measure 90 degrees, then it is not a right angle.
- 18 Lines m and n are in plane \mathcal{A} . What is the converse of the statement "If lines m and n are parallel, then lines m and n do not intersect"?
- 1) If lines m and n are not parallel, then lines m and n intersect.
 - 2) If lines m and n are not parallel, then lines m and n do not intersect
 - 3) If lines m and n intersect, then lines m and n are not parallel.
 - 4) If lines m and n do not intersect, then lines m and n are parallel.
- 19 The converse of the statement "If a triangle has one right angle, the triangle has two acute angles" is
- 1) If a triangle has two acute angles, the triangle has one right angle.
 - 2) If a triangle has one right angle, the triangle does not have two acute angles.
 - 3) If a triangle does not have one right angle, the triangle does not have two acute angles.
 - 4) If a triangle does not have two acute angles, the triangle does not have one right angle.
- 20 What is the contrapositive of the statement, "If I am tall, then I will bump my head"?
- 1) If I bump my head, then I am tall.
 - 2) If I do not bump my head, then I am tall.
 - 3) If I am tall, then I will not bump my head.
 - 4) If I do not bump my head, then I am not tall.
- 21 What is the contrapositive of the statement "If I study, then I pass the test"?
- 1) I pass the test if I study.
 - 2) If I do not study, then I do not pass the test.
 - 3) If I do not pass the test, then I do not study.
 - 4) If I pass the test, then I study.
- 22 Given the statement, "If a number has exactly two factors, it is a prime number," what is the contrapositive of this statement?
- 1) If a number does not have exactly two factors, then it is not a prime number.
 - 2) If a number is not a prime number, then it does not have exactly two factors.
 - 3) If a number is a prime number, then it has exactly two factors.
 - 4) A number is a prime number if it has exactly two factors.
- 23 Given: "If a polygon is a triangle, then the sum of its interior angles is 180° ." What is the contrapositive of this statement?
- 1) "If the sum of the interior angles of a polygon is not 180° , then it is not a triangle."
 - 2) "A polygon is a triangle if and only if the sum of its interior angles is 180° ."
 - 3) "If a polygon is not a triangle, then the sum of the interior angles is not 180° ."
 - 4) "If the sum of the interior angles of a polygon is 180° , then it is a triangle."

G.CO.C.9: Inverse, Converse and Contrapositive 1a
Answer Section

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
8	ANS: 3	REF: 080014a
9	ANS: 3	REF: 080116a
10	ANS: 1	REF: 060520a
11	ANS: 3	REF: 080521a
12	ANS: 3	REF: 060717a
13	ANS: 1	REF: 061009ge
14	ANS: 1	REF: 010415a
15	ANS: 4	REF: 060816a
16	ANS: 1	REF: 080813a
17	ANS: 1	REF: 061314ge
18	ANS: 4	REF: 081318ge
19	ANS: 1	REF: 011605ge
20	ANS: 4	REF: 060913ge
21	ANS: 3	REF: 080427a
22	ANS: 2	REF: 011517ge
23	ANS: 1	REF: 081513ge