

NAME: \_\_\_\_\_

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

1. 060913ge, P.I. G.G.26  
What is the contrapositive of the statement, "If I am tall, then I will bump my head"?  
[A] If I bump my head, then I am tall.  
[B] If I am tall, then I will not bump my head.  
[C] If I do not bump my head, then I am not tall.  
[D] If I do not bump my head, then I am tall.
2. 080427a, P.I. G.G.26  
What is the contrapositive of the statement "If I study, then I pass the test"?  
[A] If I do not study, then I do not pass the test.  
[B] If I pass the test, then I study.  
[C] I pass the test if I study.  
[D] If I do not pass the test, then I do not study.
3. 060308a, P.I. G.G.26  
Which statement is logically equivalent to "If it is Saturday, then I am not in school"?  
[A] If I am not in school, then it is Saturday.  
[B] If I am in school, then it is not Saturday.  
[C] If it is Saturday, then I am in school.  
[D] If it is not Saturday, then I am in school.
4. 080104a, P.I. G.G.26  
Which statement is logically equivalent to "If I did not eat, then I am hungry"?  
[A] If I am hungry, then I did eat.  
[B] If I am not hungry, then I did not eat.  
[C] If I am not hungry, then I did eat.  
[D] If I did not eat, then I am not hungry.
5. 060112a, P.I. G.G.26  
Which statement is logically equivalent to "If I eat, then I live"?  
[A] If I do not live, then I do not eat.  
[B] If I live, then I eat.  
[C] I live if and only if I eat.  
[D] If I eat, then I do not live.
6. 060405a, P.I. G.G.26  
Which statement is logically equivalent to "If a triangle is an isosceles triangle, then it has two congruent sides"?  
[A] If a triangle is not an isosceles triangle, then it has two congruent sides.  
[B] If a triangle does not have two congruent sides, then it is an isosceles triangle.  
[C] If a triangle is an isosceles triangle, then it does not have two congruent sides.  
[D] If a triangle does not have two congruent sides, then it is not an isosceles triangle.
7. 010220a, P.I. G.G.26  
Which statement is logically equivalent to "If the team has a good pitcher, then the team has a good season"?  
[A] If the team does not have a good season, then the team does not have a good pitcher.  
[B] If the team does not have a good pitcher, then the team does not have a good season.  
[C] If the team has a good season, then the team has a good pitcher.  
[D] The team has a good pitcher and the team does not have a good season.

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8. 010930a, P.I. G.G.26  
Which statement is logically equivalent to “If I am in a mathematics class, then I am having fun”?
- [A] If I am in a mathematics class, then I am not having fun.
- [B] If I am not having fun, then I am not in a mathematics class.
- [C] If I am having fun, then I am in a mathematics class.
- [D] If I am not in a mathematics class, then I am not having fun.
9. 010308a, P.I. G.G.26  
Given the true statement: "If a person is eligible to vote, then that person is a citizen." Which statement must also be true?
- [A] Marie is not eligible to vote; therefore, she is not a citizen.
- [B] Juan is a citizen; therefore, he is eligible to vote.
- [C] Morgan has never voted; therefore, he is not a citizen.
- [D] Kayla is not a citizen; therefore, she is not eligible to vote.
10. 010513a, P.I. G.G.26  
Which statement is logically equivalent to the statement "If you are an elephant, then you do not forget"?
- [A] If you forget, then you are not an elephant.
- [B] If you do not forget, then you are an elephant.
- [C] If you are an elephant, then you forget.
- [D] If you do not forget, then you are not an elephant.
11. 080629a, P.I. G.G.26  
Which statement is logically equivalent to the statement "If Corey worked last summer, he buys a car"?
- [A] If you are an elephant, then you forget.
- [B] If Corey buys a car, he worked last summer.
- [C] If Corey did not work last summer, he does not buy a car.
- [D] If Corey does not buy a car, he did not work last summer.
12. 080829a, P.I. G.G.26  
Which statement is logically equivalent to “If I sleep, then I will not eat”?
- [A] If I eat, then I will not sleep.
- [B] If I eat, then I will sleep.
- [C] If I do not eat, then I will sleep.
- [D] If I do not sleep, then I will eat.
13. fall0834ge, P.I. G.G.26  
Write a statement that is logically equivalent to the statement "If two sides of a triangle are congruent, the angles opposite those sides are congruent." Identify the new statement as the converse, inverse, or contrapositive of the original statement.

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

[1] A \_\_\_\_\_

[2] D \_\_\_\_\_

[3] B \_\_\_\_\_

[4] C \_\_\_\_\_

[5] A \_\_\_\_\_

[6] D \_\_\_\_\_

[7] A \_\_\_\_\_

[8] B \_\_\_\_\_

[9] D \_\_\_\_\_

[10] A \_\_\_\_\_

[11] D \_\_\_\_\_

[12] A \_\_\_\_\_

[2] A correct logically equivalent statement is written and identified as the contrapositive.

[1] An incorrect statement is written, but it is identified appropriately.

or [1] Contrapositive is identified, but the statement is missing or incorrect.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[13] incorrect procedure.