

Advanced Geometry  
WS- Conditional Statements

Name: \_\_\_\_\_  
Date: \_\_\_\_\_ Period: \_\_\_\_\_

Identify the hypothesis and conclusion of each conditional:

1. If you want to be fit, then you want to get plenty of exercise.
2. If you can see the magic in a fairy tale then you can face the future.
3. If  $x + 20 = 32$ , then  $x = 12$

Write each sentence as a conditional:

4. Glass objects are fragile. \_\_\_\_\_
5.  $3x - 7 = 14$  implies that  $3x = 21$  \_\_\_\_\_
6. Whole numbers that have 2 as a factor are even. \_\_\_\_\_
7. Good weather makes a picnic enjoyable. \_\_\_\_\_

Show that each conditional is false by finding a counterexample: \_\_\_\_\_

8. If it is not a weekday then it is Saturday. \_\_\_\_\_
9. If an integer is less than 10 and odd then it is prime. \_\_\_\_\_
10. If you live in a country that borders the USA then you live in Mexico. \_\_\_\_\_

Write the converse of each conditional:

11. If you eat your vegetables then you grow. \_\_\_\_\_
12. If you do not work then you do not get paid. \_\_\_\_\_

Draw a Venn diagram to illustrate each statement:

13. If you live in New England then you live in the United States.
14. If you play the flute then you are a musician.

Determine the truth value (true or false) following conditional statements. If false, then write a counterexample.

15. If you live in Texas, then you live in Houston.

T F \_\_\_\_\_

16. If an angle is obtuse, then it has a measure greater than  $90^\circ$ .

T F \_\_\_\_\_

17. If a number is divisible by 2, then it is an odd number.

T F \_\_\_\_\_

18. If you live in Paris, then you live in France.

T F \_\_\_\_\_

19. If a line intersects another line, then they intersect at exactly one point.

T F \_\_\_\_\_

Determine the truth value (true or false) of each of the following based on the given statement.

20. If you are over 18 years old, then you vote in all elections.

T F A) You are 19 years old and you vote.

T F B) You are 21 years old and you do not vote.

T F C) You are 17 years old and do not vote.

T F D) Your dad is 45 years old and does not vote

21. If you drive faster than 75 mph, then you will receive a speeding ticket.

T F A) You drive faster than 80 mph and you receive a speeding ticket.

T F B) You drive 72 mph and you do not receive a speeding ticket.

T F C) You drive 78 mph and you do not receive a speeding ticket.