Secondary I      Conditional Statements Worksheet    Name _____

Write the statement in if-then form.

1. The measure of a right angle is 90°. _____

2. When x=6, $x^2$ = 36 _____

3. Two angles are supplementary if they measure 180°. _____

_____

4. You have a fever if your body temperature is 103°. _____

_____

5. It is time for dinner if it is 6 p.m. _____

6. The car runs when there is gas in the tank. _____

7. There are 12 eggs if the carton is full. _____

8. A car with leaking antifreeze has a problem. _____

_____

9. You can't teach an old dog new tricks. _____

10. A deer is albino if it has white fur and pink eyes. _____

_____

Write the converse, inverse, and contrapositive of each conditional statement and decide if each statement is true of false.

11. If water is frozen, then its temperature is below 0°C.

       Converse _____

       Inverse _____

       Contrapositive _____

12. If a point is a midpoint, then it divides a segment into two congruent segments.

       Converse _____

       Inverse _____

       Contrapositive _____

13. If you are a guitar player, then you are a musician.

   Converse _____

   Inverse _____

   Contrapositive _____

14. If a dog is a Great Dane, then it is large.

   Converse _____

   Inverse _____

   Contrapositive _____

15. If you compete in the Olympics, then you are an athlete.

   Converse _____

   Inverse _____

   Contrapositive _____

16. If an obtuse angle is bisected, then two acute angles are obtained.

   Converse _____

   Inverse _____

   Contrapositive _____

17. If two angles are complementary, then they add to 90°.

   Converse _____

   Inverse _____

   Contrapositive _____

18. If you like hockey, then you go to the hockey game.

   Converse _____

   Inverse _____

   Contrapositive _____

19. If two circles have the same diameter, then they have the same circumference.

Converse _____

Inverse _____

Contrapositive _____

Write the converse of each statement.  If the converse is true, write the biconditional statement.

20. If an angle measures less than 90°, then it is an acute angle.

Converse _____

Biconditional _____

21. If two angles are supplementary, then the sum of their measures is 180°.

Converse _____

Biconditional _____

22. If an animal is a panther, then it lives in the forest.

Converse _____

Biconditional _____

23. If 3x+10=16, then x=2.

Converse _____

Biconditional _____

24. If a circle has a radius of r, then it has a circumference of 2πr.

Converse _____

Biconditional _____

25. If two lines are perpendicular, then they intersect to form right angles.

Converse _____

Biconditional _____

Use the Law of Syllogism to write the statement that follows from the pair of statements given.

26. If Moose is hungry when he goes to the pizza shop, then he'll finish a whole pizza.
    If Moose eats a whole pizza, then he goes through a pitcher of soda.

_____

27. If you mail the payment by noon, then it will arrive by tomorrow. If your payment arrives by tomorrow, then you won't be charged a late fee.


_____

28. If Estelle takes her broker's advice, she'll invest in stock X. If Estelle invests in stock X, she'll earn 50% on her investment by next year.

_____

29. If a triangle has two angles of 60°, then the triangle is equiangular. If a triangle is equiangular, then it is also equilateral.

_____

30. If you wear the school colors, then you have school spirit.

    If you have school spirit, then the team feels great.


_____

31. If we don't make any stops, then we'll make it to the stadium by 12:30. If we make it to the stadium by 12:30, then we should be in time to see the kickoff.


_____

32. In a recreational basketball league, if a player receives two technical fouls in one game, then the player is ejected from the game. If a player is ejected from a game, then the player has to sit out the following game.


_____

Write a counter example for each statement.

33. All athletes go to the Olympics.             34. All lines intersect at 90°.

35. The car runs if there is gas in the tank.   36. The value of $x^3$ is always greater than x.

37. All quadrilaterals have four right angles.      38. All triangles have a right angle.

39. All students who have an A in math have A's in all of their other classes.