Lesson 1.3: Worksheet   Honors Geometry   Name:_____
Conditional Statements

In 1 and 2, complete the statements.

    1.   An if-then statement is also called a _____ .

    2.   In an if-then statement,

        a. the clause following "if " is called the _____ .

        b. the clause following "then" is called the _____ .

In 3-6, underline the antecedent once and the consequent twice.

    3.   If wishes were horses, then beggars would ride.

    4.   Make yourself a sandwich if you're hungry.

    5.   If you were perfect, then you would not need an eraser.

    6.   Take the bus if the car won't start.

In 7-10: a. Rewrite as a conditional; b. Is the statement *true* or *false*?

    7.   Any dogs in the park must be on a leash.

        a. _____ .

        b. Is the statement *true* or *false*? _____ .

    8.   Pentagons have five sides.

        a. _____ .

        b. Is the statement *true* or *false*? _____ .

    9.   It is always cloudy when it rains.

        a. _____ .

        b. Is the statement *true* or *false*? _____ .

    10.   It is always winter when it snows.

        a. _____ .

        b. Is the statement *true* or *false*? _____ .

In 11-13, a conjecture is given. Determine whether each example is an *instance* of the conjecture; a *counterexample* to the conjecture; or *neither* an instance nor a counterexample to the conjecture.

11. If $t \geq 40,$ then $t \geq 41.$

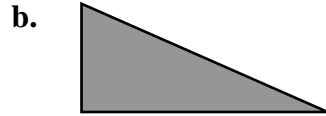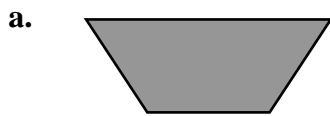   **a.** $t = 45$ **b.** $t = 39$ **c.** $t = 40.3$

_____   _____   _____

12. If $u > -5$, then u is positive.

    a. $u = -2$ **b.** $u = -12$ **c.** $u = 4$

_____   _____   _____

13. If a figure has four sides, then it is a rectangle.

    a.   **b.**   **c.**

_____   _____   _____

In 14-15, answer the question.

14. An ad said, "If you buy a refrigerator before Friday, you'll receive a $100 rebate." Danielle bought a refrigerator on Thursday of the same week. What will happen?

15. If you got at least 82% on the last test, your final grade will be an A. You got 89% on the last test. What will happen?

In 16 and 17, write *true*, *false*, or *cannot be determined.*

16. If a statement is true, its converse is _____ .

17. If a statement is false, its converse is _____ .

In 18-23, a conditional is given.
> **a. Is the conditional true? If not, give a counterexample.**
> **b. Write its converse.**
> **c. Is the converse true? If not, give a counterexample.**

18. If the light is red, the traffic stops.

    a. _____

    b. _____

    c. _____

19. If $m > 0$, then $m \geq 2$.

    a. _____

    b. _____

    c. _____

20. If you are in Texas, then you are in Houston.

    a. _____

    b. _____

    c. _____

21. If you are in Nevada, then you are in the United States.

    a. _____

    b. _____

    c. _____

22.   If it rains, then you will get wet.

   a. _____

   b. _____

   c. _____

23.   If $x < 8$, then $x < 10$.

   a. _____

   b. _____

   c. _____

In problem 24, answer the questions.

   24.   Given the definition: A midpoint of a segmant divides a segment into two congruent segments.

   a. Write this statement as a conditional:

   _____

   b. Write the converse of the conditional written in part **a.**:

   _____

   c. Write this definition as a biconditional:

   _____