19. If I cut my hair, then it will be shorter.

20. If a number is divisible by 6, then it is divisible by 3.

21. If it is Tuesday, then movie tickets are half-price.

22. True; if the hypothesis is true and a pair of lines is parallel, then they will never intersect, so the conclusion is also true.

23. False. Sample: $-3 \times (-10) = 30$

24. **Negation of hypothesis:** The sum of the interior angle measures of a polygon is not $180°$.

Negation of conclusion: The polygon is not a triangle.

25. **Negation of hypothesis:** Both whole numbers are odd or both whole numbers are even.

Negation of conclusion: The sum of the two numbers is even.

26. If an angle is obtuse, then it measures $100°$. This is false because a counterexample is a $99°$ angle.

27. If an angle is not obtuse, then it does not measure $100°$. This is true because only obtuse angles are larger than $90°$ and less than $180°$. All other angles are equal to or smaller than $90°$.

28. If an angle does not measure $100°$, then it is not obtuse. This is false because a counterexample is an obtuse $99°$ angle.

29. Yes; explanations may vary. Sample: The converse of the conditional is, "If 53 % of the dogs are male, then 47 % of the dogs are female." This is true because the dogs that are not male are female. Since both the conditional and its converse are true, the biconditional is true.

30. If a month has exactly 28 days, then it is February.

If a month is February, then it has exactly 28 days.

31. If two angles are complementary, then their measures add up to $90°$.

If the measures of two angles add up to $90°$, then they are complementary.

32. If the area of a square is s^2, then the perimeter of the square is $4s$.

If the perimeter of a square is $4s$, then the area of the square is s^2.