17. Complete with *outside*, *inside*, or *on*: In a right triangle, (**a**) the medians intersect ___?___ the triangle, (**b**) the altitudes intersect ___?___ the triangle, and (**c**) the perpendicular bisectors of the sides intersect ___?___ the triangle.

18. In $\triangle RST$, the bisector of $\angle T$ meets $\overline{RS}$ at X. $RS = 15$, $ST = 27$, $TR = 18$. Find RX.

19. Given: All of Bill's sisters like to dance.
What can you conclude from each additional statement? If no conclusion is possible, write *no conclusion*.

a. Janice is Bill's sister.
b. Holly loves to dance.
c. Maureen is not Bill's sister.
d. Kim does not like to dance.

20. Suppose someone plans to write an indirect proof of the statement "In $\square ABCD$ if $\overline{AB} \perp \overline{BC}$, then $ABCD$ is a rectangle." Write a correct first sentence of the indirect proof.

Complete each statement with the words *always*, *sometimes*, or *never*.

21. A contrapositive of a true conditional statement is ___?___ true.

22. The sides of a triangle are ___?___ 14 cm, 17 cm, and 31 cm long.

23. In $\square ABCD$, if $m\angle A > m\angle B$, then $\angle D$ is ___?___ an acute angle.

24. Two obtuse triangles are ___?___ similar.

25. Two lines perpendicular to a third line are ___?___ perpendicular to each other.

Complete.

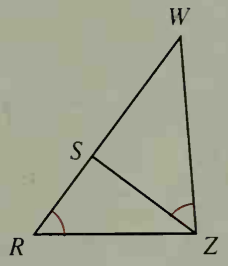
26. If $\frac{7}{x} = \frac{9}{10}$, then ___?___ = ___?___, and x = ___?___.

B **27.** The sine of any acute angle must be greater than ___?___ and less than ___?___.

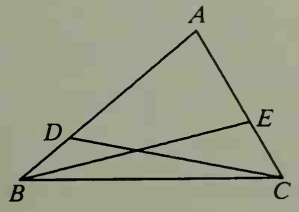
28. **a.** $\triangle RWZ \sim$ ___?___

b. $\frac{RW}{?} = \frac{ZR}{?} = \frac{WZ}{?}$

c. $RW = 15$, $ZR = 10$, and $SZ = 8$.
$WZ =$ ___?___ and $RS =$ ___?___



29. Given: $AB > AC$; $\overline{BD} \cong \overline{EC}$
Prove: $BE > CD$



30. Given: $\frac{PR}{TR} = \frac{SR}{QR}$
Prove: $\angle S \cong \angle Q$