9. If $\triangle ABC \sim \triangle NJT$, then $\angle B \cong$ ___?___. **7–3**

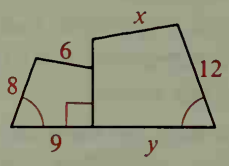
10. If quad. $DEFG \sim$ quad. $PQRS$, then $\frac{FG}{RS} = \frac{GD}{?}$.

11. $\triangle ABC \sim \triangle JET$, and the scale factor of $\triangle ABC$ to $\triangle JET$ is $\frac{5}{3}$.

a. If $BC = 20$, then $ET =$ ___?___.

b. If the perimeter of $\triangle JET$ is 30, then the perimeter of $\triangle ABC$ is ___?___.

12. The quadrilaterals are similar. Find the values of x and y.



13. **a.** $\triangle RTS \sim$ ___?___ **7–4**

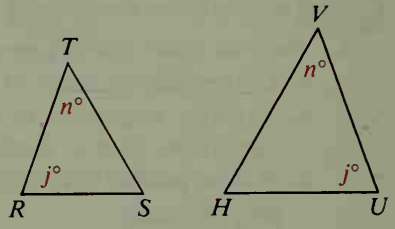
b. What postulate or theorem justifies the statement in part (a)?

14. $\frac{RT}{?} = \frac{TS}{?} = \frac{RS}{?}$

15. Suppose you wanted to prove

$$RS \cdot UV = RT \cdot UH.$$

You would first use similar triangles to show that $\frac{RS}{?} = \frac{?}{?}$.



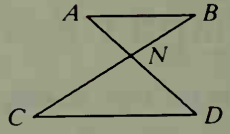
Can the two triangles be proved similar? If so, state the similarity and the postulate or theorem you would use. If not, write *no*.

16. $\angle A \cong \angle D$

17. $\angle B \cong \angle D$

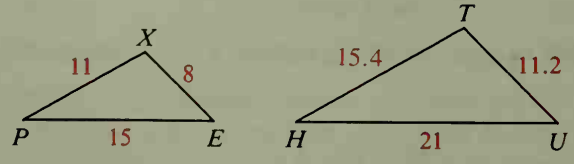
18. $CN = 16$, $ND = 14$, $BN = 7$, $AN = 8$

19. $AN = 7$, $AB = 13$, $DN = 14$, $DC = 26$



Exs. 16–19 **7–5**

20.

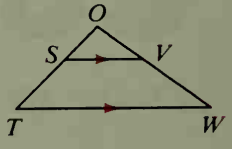


21. Which proportion is *incorrect*? **7–6**

(1) $\frac{OS}{ST} = \frac{OV}{VW}$ (2) $\frac{SV}{TW} = \frac{OS}{ST}$ (3) $\frac{OT}{OW} = \frac{OS}{OV}$

22. If $OS = 8$, $ST = 12$, and $OV = 10$, then $OW =$ ___?___.

23. If $OS = 8$, $ST = 12$, and $OW = 24$, then $VW =$ ___?___.



24. In $\triangle ABC$, the bisector of $\angle B$ meets $\overline{AC}$ at K. $AB = 18$, $BC = 24$, and $AC = 28$. Find AK.