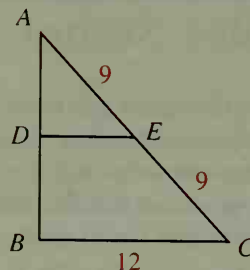


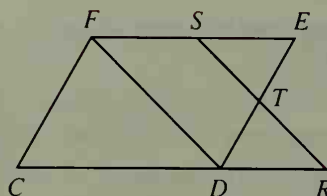
State the principal theorem that justifies the statement about the diagram.

9. If  $\overline{DE} \parallel \overline{BC}$ , then  $D$  is the midpoint of  $\overline{AB}$ .
10. If  $D$  is the midpoint of  $\overline{AB}$ , then  $\overline{DE} \parallel \overline{BC}$ .
11. If  $D$  is the midpoint of  $\overline{AB}$ , then  $DE = 6$ .



5-3

12. Given:  $\square CDEF$ ;  $S$  and  $T$  are the midpoints of  $\overline{EF}$  and  $\overline{ED}$ .  
Prove:  $\overline{SR} \cong \overline{FD}$

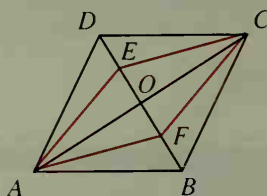


Give the most descriptive name for quad.  $MNOP$ .

13.  $\overline{MN} \cong \overline{PO}$ ;  $\overline{MN} \parallel \overline{PO}$
14.  $\overline{MN} \parallel \overline{PO}$ ;  $\overline{NO} \parallel \overline{MP}$ ;  $\overline{MO} \perp \overline{NP}$
15.  $\angle M \cong \angle N \cong \angle O \cong \angle P$
16.  $MNOP$  is a rectangle with  $MN = NO$ .

5-4

17. Given:  $ABCD$  is a rhombus;  
 $DE = BF$   
Prove:  $AECF$  is a rhombus.

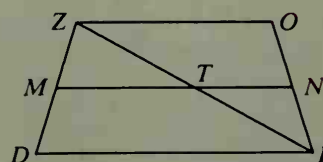


Draw and label a diagram. List, in terms of the diagram, what is given and what is to be proved. Then write a proof.

18.  $\overline{PX}$  and  $\overline{QY}$  are altitudes of acute  $\triangle PQR$ , and  $Z$  is the midpoint of  $\overline{PQ}$ .  
Prove that  $\triangle XYZ$  is isosceles.

$\overline{MN}$  is the median of trapezoid  $ZOID$ .

19. The bases of trap.  $ZOID$  are  $\underline{\quad ? \quad}$  and  $\underline{\quad ? \quad}$ .
20. If  $ZO = 8$  and  $MN = 11$ , then  $DI = \underline{\quad ? \quad}$ .
21. If  $ZO = 8$ , then  $TN = \underline{\quad ? \quad}$ .
22. If trap.  $ZOID$  is isosceles and  $m\angle D = 80$ , then  $m\angle O = \underline{\quad ? \quad}$ .



5-5