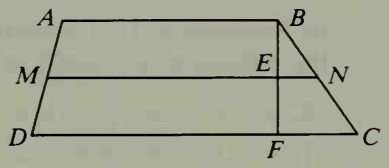
Chapter Test

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

1. A square is ___?___ a rectangle.
2. A rectangle is ___?___ a rhombus.
3. A rhombus is ___?___ a square.
4. A rhombus is ___?___ a parallelogram.
5. A trapezoid ___?___ has three congruent sides.
6. The diagonals of a trapezoid ___?___ bisect each other.
7. The diagonals of a rectangle are ___?___ congruent.
8. The diagonals of a parallelogram ___?___ bisect the angles.

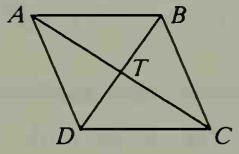
Trapezoid *ABCD* has median $\overline{MN}$.

9. If $DC = 42$ and $MN = 35$, then $AB =$ ___?___.
10. If $FC = 9$, then $EN =$ ___?___.
11. If $AB = 5j + 7k$ and $DC = 9j - 3k$, then $MN =$ ___?___.

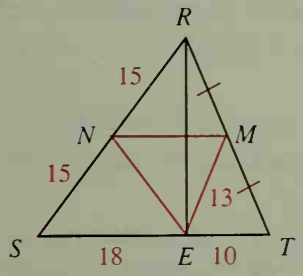


Can you deduce from the given information that quad. *ABCD* is a parallelogram? If so, what theorem can you use?

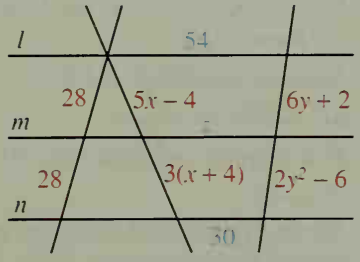
12. $\angle ADC \cong \angle CBA$ and $\angle BAD \cong \angle DCB$
13. $\overline{AD} \parallel \overline{BC}$ and $\overline{AD} \cong \overline{BC}$
14. $AT = CT$ and $DT = \frac{1}{2}DB$
15. $\overline{AB}$, $\overline{BC}$, $\overline{CD}$, and $\overline{DA}$ are all congruent.



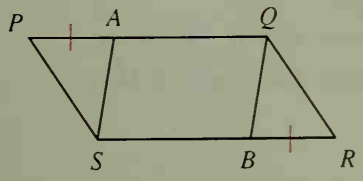
16. $\overline{RE}$ is an altitude of $\triangle RST$.
Find MN, NE, and RT.



17. $l \parallel m \parallel n$
Find the values of x, y, and z.



18. Given: $\square PQRS$; $PA = RB$
Prove: $AS = BQ$



19. Given: $\overline{PR} \parallel \overline{VO}$; $\overline{RO} \parallel \overline{PV}$; $\overline{PR} \cong \overline{RO}$
Prove: $\angle 1$ and $\angle 2$ are complementary.