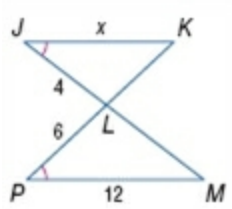
ALGEBRA Identify the similar triangles. Then find each measure.

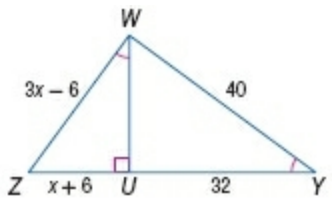
16. *JK*



ANSWER:

$\Delta JLK \sim \Delta PLM$; 8

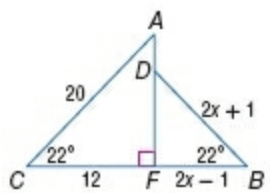
18. *WZ, UZ*



ANSWER:

$\Delta WUZ \sim \Delta YUW$; 30, 18

20. *DB, CB*



ANSWER:

$\Delta DFB \sim \Delta AFC$; 5, 15

22. **STATUES** Mei is standing next to a statue in the park. If Mei is 5 feet tall, her shadow is 3 feet long, and the statue's shadow is $10\frac{1}{2}$ feet long, how tall is the statue?

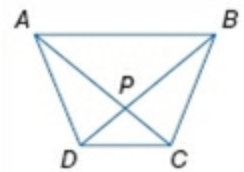
ANSWER:

$17\frac{1}{2}$ ft

PROOF Write a two-column proof.

28. **Given:** *ABCD* is a trapezoid.

Prove: $\frac{DP}{PB} = \frac{CP}{PA}$



ANSWER:

Proof:

<u>Statements (Reasons)</u>

1. *ABCD* is a trapezoid. (Given)
2. $\overline{AB} \parallel \overline{DC}$ (Def. of trap.)
3. $\angle BDC \cong \angle ABD, \angle BAC \cong \angle DCA$ (Alt. Int. angle Thm.)
4. $\Delta DCP \sim \Delta BAP$ (AA Similarity)
5. $\frac{DP}{PB} = \frac{CP}{PA}$ (Corr. sides of $\sim \Delta$ s are proportional.)

39. **REASONING** A pair of similar triangles has angle measures of 45°, 50°, and 85°. The sides of one triangle measure 3, 3.25, and 4.23 units, and the sides of the second triangle measure $x - 0.46$, x, and $x + 1.81$ units. Find the value of x.

ANSWER:
6