
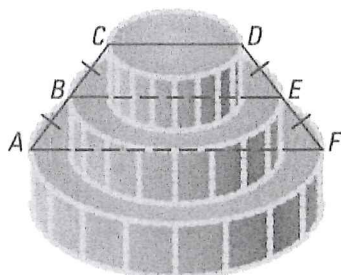


TRAPEZOID HOMEWORK

RTI

Key

1.  **LAYER CAKE** The top layer of the cake has a diameter of 10 inches. The bottom layer has a diameter of 22 inches. What is the diameter of the middle layer?

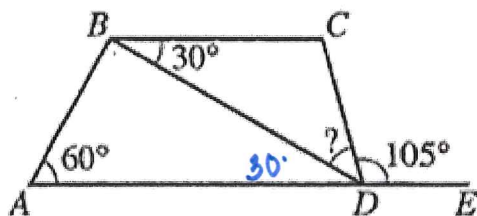


$$BE = \frac{1}{2}(AF + CD)$$

$$BE = \frac{1}{2}(22 + 10)$$

$$BE = 16 \text{ inches}$$

2. In the figure below, $ABCD$ is a trapezoid, E lies on \overleftrightarrow{AD} , and angle measures are as marked. What is the measure of $\angle BDC$?

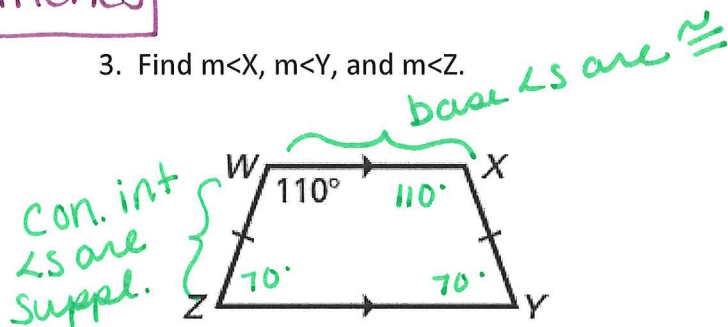


- F. 15°
- G. 25°
- H. 30°
- J. 35°
- *K. 45°

$$180 = 30 + ? + 105$$

$$? = 45^\circ$$

3. Find $m\angle X$, $m\angle Y$, and $m\angle Z$.

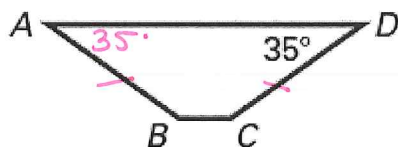


$$\angle Z = 70^\circ$$

$$\angle X = 110^\circ$$

$$\angle Y = 70^\circ$$

4. $ABCD$ is an isosceles trapezoid. Find $m\angle A$, $m\angle B$, and $m\angle C$.

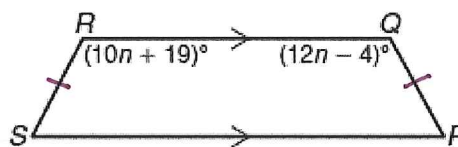


$$\angle A = 35^\circ$$

$$\angle B = 145^\circ$$

$$\angle C = 145^\circ$$

5. $PQRS$ is an isosceles trapezoid. Find n .



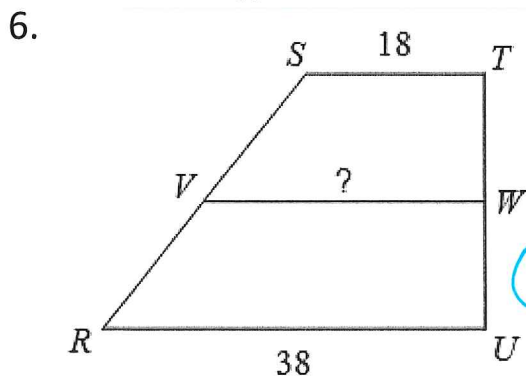
$\angle R \cong \angle Q$ base angles of isosc. traps are \cong

$$10n + 19 = 12n - 4$$

$$23 = 2n$$

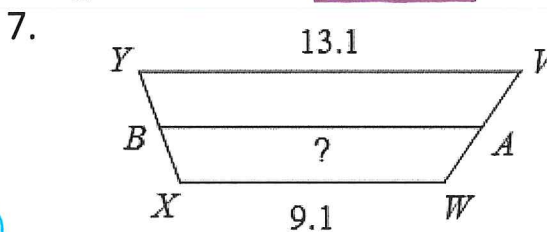
$$n = 11.5$$

Find the length of the midsegment of each trapezoid.



$$VW = 28$$

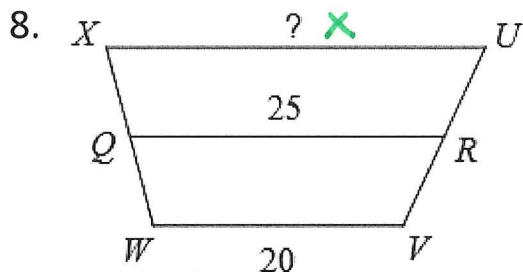
$$VW = \frac{1}{2}(18 + 38)$$



$$AB = \frac{1}{2}(9.1 + 13.1)$$

$$AB = 11.1$$

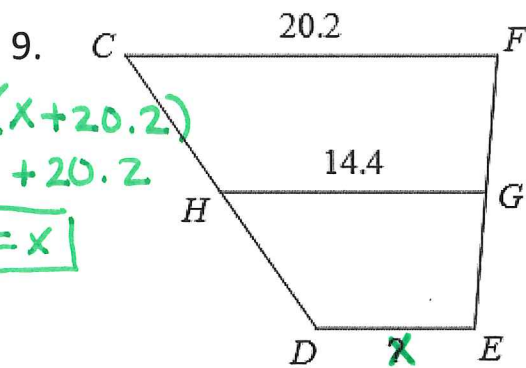
Find the length of the base indicated for each trapezoid.



$$25 = \frac{1}{2}(x + 20)$$

$$50 = x + 20$$

$$\boxed{x = 30}$$



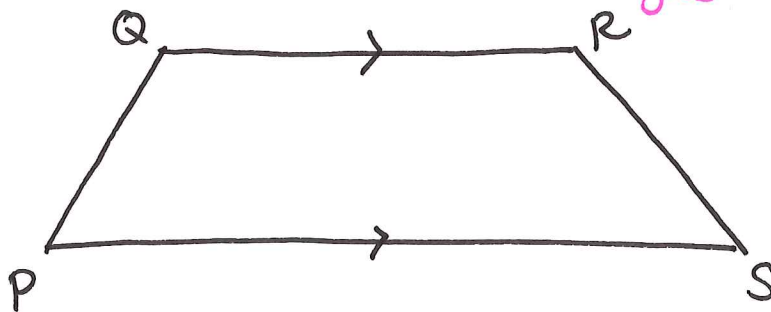
$$14.4 = \frac{1}{2}(x + 20.2)$$

$$28.8 = x + 20.2$$

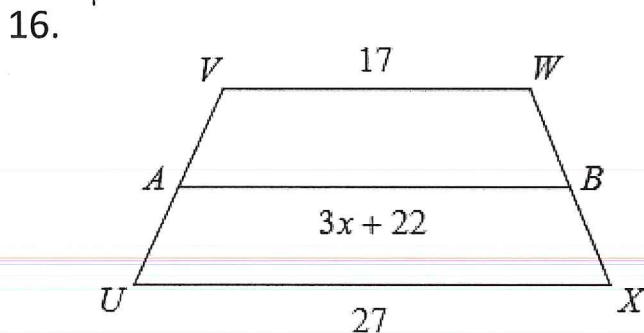
$$\boxed{8.6 = x}$$

STUDYING A TRAPEZOID Draw a trapezoid $PQRS$ with $\overline{QR} \parallel \overline{PS}$. Identify the segments or angles of $PQRS$ as *bases*, *consecutive sides*, *legs*, *diagonals*, *base angles*, or *opposite angles*.

10. \overline{QR} and \overline{PS} *Bases* 11. \overline{PQ} and \overline{RS} *legs* 12. \overline{PQ} and \overline{QR} *consecutive sides*
 13. \overline{QS} and \overline{PR} *diags* 14. $\angle Q$ and $\angle S$ *op. angles* 15. $\angle S$ and $\angle P$ *Base \angle s*



Algebra Review



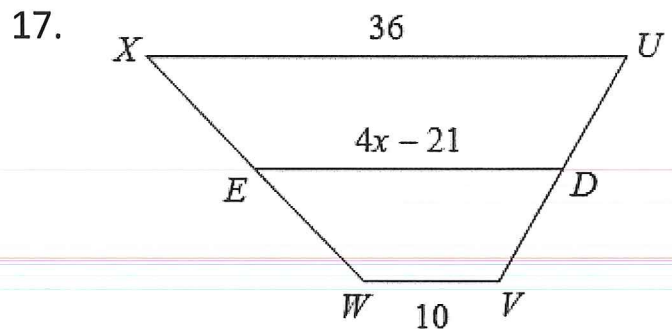
$$3x + 22 = \frac{1}{2}(27 + 17)$$

$$3x + 22 = 22$$

$$-22 \quad -22$$

$$3x = 0$$

$$\boxed{x = 0}$$



$$4x - 21 = \frac{1}{2}(10 + 36)$$

$$4x - 21 = 23$$

$$4x = 44$$

$$\boxed{x = 11}$$