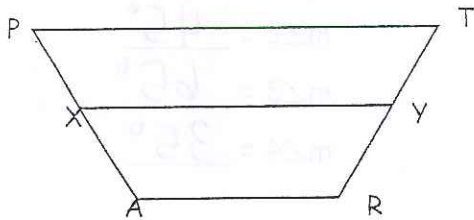
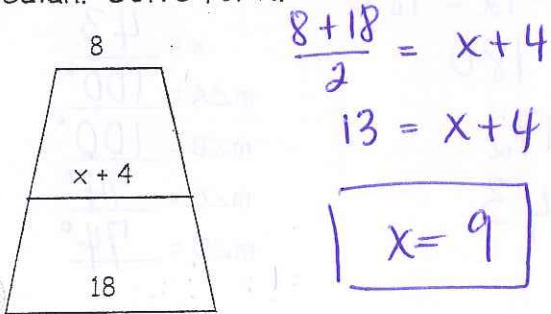


Given PART is a trapezoid and \overline{XY} is the median. Answer the below questions:

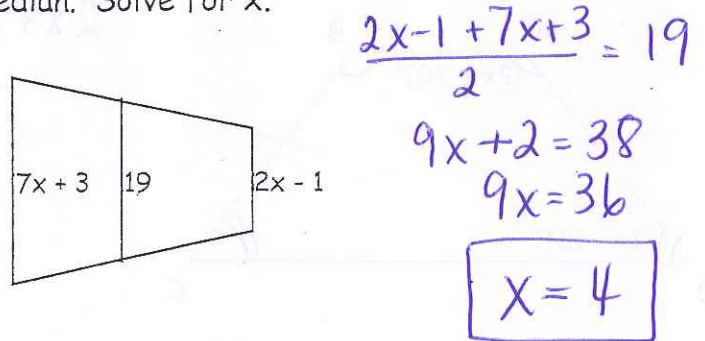


- 1) $PT = 15$, $XY = 11$, $AR = 7$. $\frac{PT+7}{2} = 11$
- 2) $PT = 25$, $XY = 19$, $AR = 13$. $\frac{25+13}{2} = XY$
- 3) $PT = 21$, $XY = 13$, $AR = 5$.
- 4) $PT = 4x^2$, $XY = 2x^2 + 3x$, $AR = 6x$. $\frac{21+AR}{2} = 13$
 $\frac{4x^2+6x}{2} = XY$

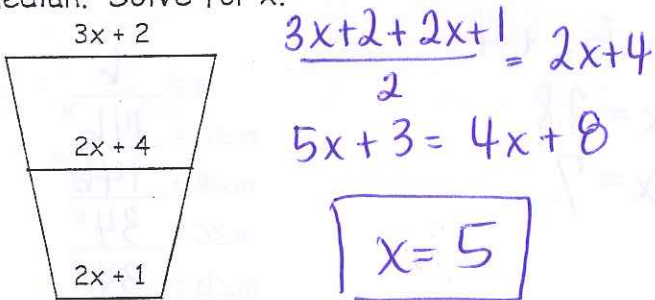
5) The diagram shows a trapezoid and its median. Solve for x.



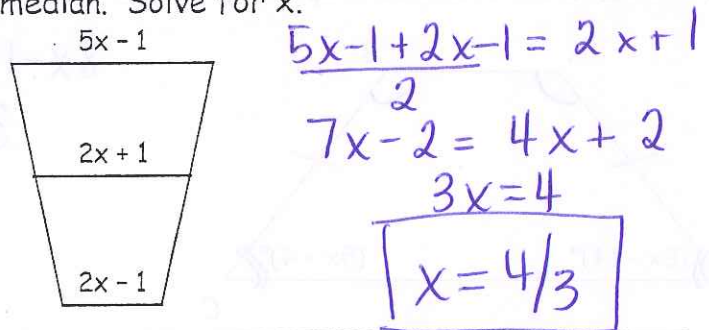
6) The diagram shows a trapezoid and its median. Solve for x.



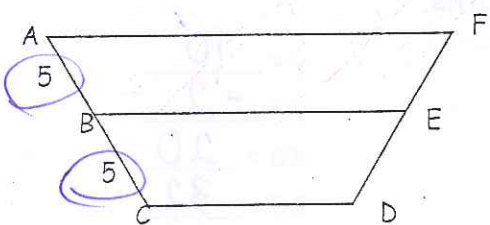
7) The diagram shows a trapezoid and its median. Solve for x.



8) The diagram shows a trapezoid and its median. Solve for x.



9) Given ACDF is a trapezoid and \overline{BE} is the median.



$AB = 2x + 3y$ and $BC = -4x - y$. Solve for x and y.

[Hint: Make a system of equations and solve.]

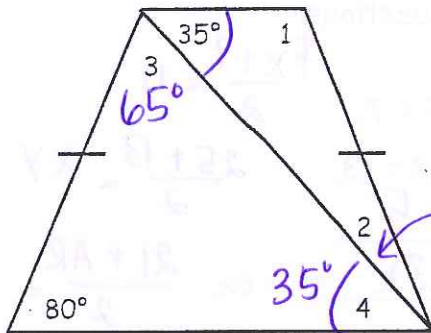
$$\begin{aligned} 2x + 3y &= 5 \\ -4x - y &= 5 \end{aligned}$$

$$\begin{aligned} x &= -2 \\ y &= 3 \end{aligned}$$

$$\begin{aligned} + \quad 2x + 3y &= 5 \\ -12x - 3y &= 15 \\ \hline -10x &= 20 \end{aligned}$$

$$\begin{aligned} 2(-2) + 3y &= 5 \\ -4 + 3y &= 5 \\ 3y &= 9 \end{aligned}$$

10) Given the isosceles trapezoid below. Find the missing angle measurements.



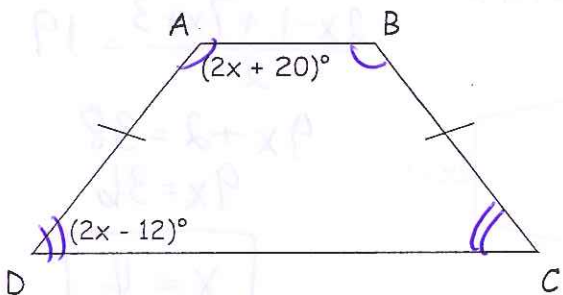
$$m\angle 1 = \underline{100^\circ}$$

$$m\angle 2 = \underline{45^\circ}$$

$$m\angle 3 = \underline{65^\circ}$$

$$m\angle 4 = \underline{35^\circ}$$

11) ABCD is an isosceles trapezoid. Solve for x and the angle measurements.



$$2x + 20 + 2x - 12 = 180$$

$$4x + 8 = 180$$

$$4x = 172$$

$$x = 43$$

$$x = \underline{43}$$

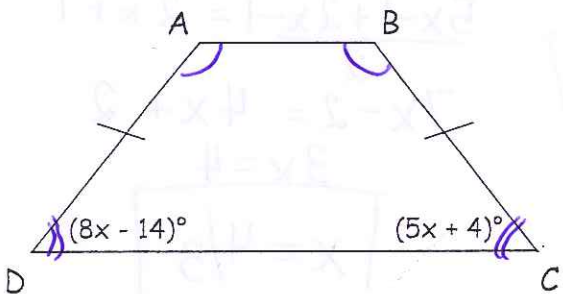
$$m\angle A = \underline{106^\circ}$$

$$m\angle B = \underline{106^\circ}$$

$$m\angle C = \underline{74^\circ}$$

$$m\angle D = \underline{74^\circ}$$

12) ABCD is an isosceles trapezoid. Solve for x and the angle measurements.



$$8x - 14 = 5x + 4$$

$$3x = 18$$

$$x = 6$$

$$x = \underline{6}$$

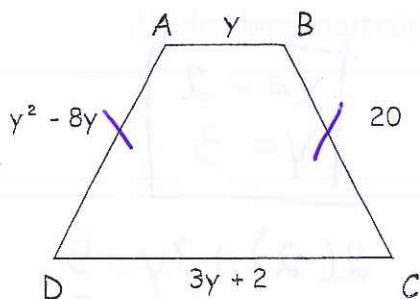
$$m\angle A = \underline{146^\circ}$$

$$m\angle B = \underline{146^\circ}$$

$$m\angle C = \underline{34^\circ}$$

$$m\angle D = \underline{34^\circ}$$

13) ABCD is an isosceles trapezoid. Solve for y and the side lengths.



$$y^2 - 8y = 20$$

$$y^2 - 8y - 20 = 0$$

$$(y - 10)(y + 2) = 0$$

$$y - 10 = 0 \quad y + 2 = 0$$

$$y = 10 \quad y = -2$$

$$y = \underline{10}$$

$$y = \underline{-2}$$

$$AD = \underline{20}$$

$$DC = \underline{32}$$

$$CB = \underline{20}$$

$$AB = \underline{10}$$