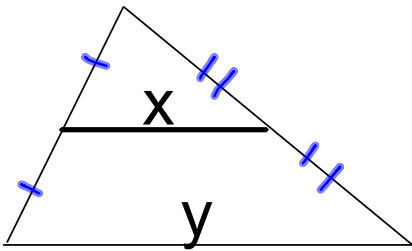
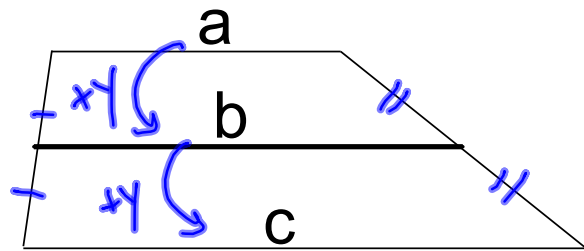


MIDSEGMENT!

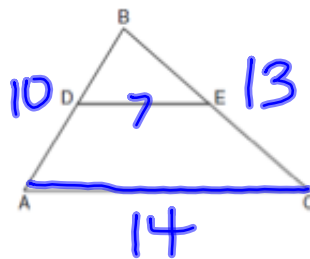


$$x = \frac{1}{2}y$$
$$2x = y$$



$$\frac{a+c}{2} = b$$

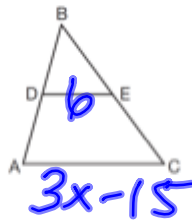
1) In the diagram below of $\triangle ABC$, \overline{DE} is a midsegment of $\triangle ABC$, $DE = 7$, $AB = 10$, and $BC = 13$. Find the perimeter of $\triangle ABC$.



$$P = 10 + 13 + 14$$

$$P = 37$$

2) In $\triangle ABC$, D is the midpoint of \overline{AB} and E is the midpoint of \overline{BC} . If $AC = 3x - 15$ and $DE = 6$, what is the value of x ?



$$6 = \frac{3x-15}{2}$$

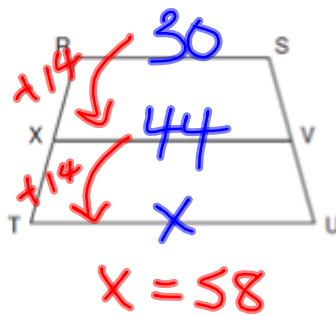
$$2(6) = 3x - 15$$

$$12 = 3x - 15$$

$$27 = 3x$$

$$9 = x$$

3) In the diagram below of trapezoid $RSUT$, $\overline{RS} \parallel \overline{TU}$, X is the midpoint of \overline{RT} , and V is the midpoint of \overline{SU} . If $RS = 30$ and $XV = 44$, what is the length of \overline{TU} ?

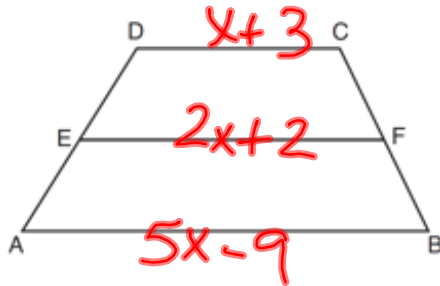


$$\frac{30 + x}{2} = 44$$

$$30 + x = 88$$

$$x = 58$$

4) In the diagram below, \overline{EF} is the midsegment of trapezoid $ABCD$. If $AB = 5x - 9$, $DC = x + 3$, and $EF = 2x + 2$, what is the value of x ?



$$\frac{x + 3 + 5x - 9}{2} = 2x + 2$$

$$6x - 6 = 4x + 4$$

$$2x = 10$$

$$x = 5$$