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HW # 6

Solve each equation below.

1.) Find two consecutive integers whose sum is 33

$$\begin{array}{|c|} \hline 16 \\ \hline 17 \\ \hline \end{array} \quad \begin{array}{l} x = 1^{\text{st}} \text{ con sec. int.} \\ x+1 = 2^{\text{nd}} \text{ consec. int.} \end{array}$$

$$\begin{aligned} x + x + 1 &= 33 \\ 2x + 1 &= 33 \\ 2x &= 32 \\ x &= 16 \end{aligned}$$

2.) Find two consecutive integers whose sum is -81.

$$\begin{array}{|c|} \hline -41 \\ \hline -40 \\ \hline \end{array} \quad \begin{array}{l} x = 1^{\text{st}} \text{ con. int.} \\ x+1 = 2^{\text{nd}} \text{ con. int.} \end{array}$$

$$\begin{aligned} x + x + 1 &= -81 \\ 2x + 1 &= -81 \\ 2x &= -82 \\ x &= -41 \end{aligned}$$

3.) The sum of four consecutive integers is -94. Find the integers.

$$\begin{array}{|c|} \hline -25 \\ \hline -24 \\ \hline -23 \\ \hline -22 \\ \hline \end{array} \quad \begin{array}{l} x = 1^{\text{st}} \text{ cons. int.} \\ x+1 = 2^{\text{nd}} \text{ cons. int.} \\ x+2 = 3^{\text{rd}} \text{ cons. int.} \\ x+3 = 4^{\text{th}} \text{ cons. int.} \end{array}$$

$$\begin{aligned} x + x + 1 + x + 2 + x + 3 &= -94 \\ 4x + 6 &= -94 \\ 4x &= -100 \\ x &= -25 \end{aligned}$$

4.) The perimeter of the following rectangle is 48.

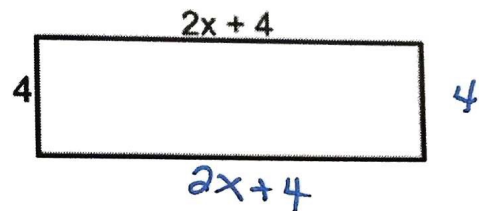
Write an equation to find the value of x . Then solve it.

$$4 + 4 + 2x + 4 + 2x + 4 = 48$$

$$4x + 16 = 48$$

$$4x = 32$$

$$x = 8$$



5.) For the equation solved below, identify the property used in each step (remember the properties of equality as well).

$$10(12 - x) + 25 = 325 \text{ Given Equation}$$

$$120 - 10x + 25 = 325 \text{ Distributive}$$

$$120 + 25 - 10x = 325 \text{ Commutative of } (+)$$

$$\begin{array}{r} 145 - 10x = 325 \\ -145 \quad -145 \\ \hline \end{array} \text{ Subtraction Prop. of Equality}$$

$$\begin{array}{r} -10x = 180 \\ -10 \quad -10 \\ \hline \end{array} \text{ Division Prop. of Equality}$$

$$x = 8$$