

Pre-Algebra

Lesson 3.2

Solving Equations Having Like Terms and Parentheses

Goal: to solve equations using the distributive property.

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The cheerleaders are going to buy materials for the football game this week. They want a banner that is \$47. They also want to give out small items to those in the stands. Pompoms are \$5.20 each and noisemakers cost \$0.80 each. Their budget is \$375 for the game. If they buy equal numbers of pompoms and noisemakers, how many can they afford to buy?

$$\begin{array}{r} 375 \\ - 47 \\ \hline \end{array}$$

$$31 \text{ } \$ \frac{328}{6}$$

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Solve:

$$26 = 2(x - 6)$$

$$26 = 2x - 12$$

$$\begin{array}{r} +12 \\ \hline \end{array}$$

$$\frac{26}{2} = \frac{2(x-6)}{2}$$

$$13 = x - 6$$

$$\frac{38}{2} = \frac{2x}{2}$$

$$19 = x$$

Is there another way to solve this problem but still get the same answer?

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Solve:

$$-3(8 - 4x) = 12$$

$$-24 + 12x = 12$$

$$\begin{array}{r} +24 \\ \hline 12x = 36 \\ \frac{12x}{12} = \frac{36}{12} = 3 \end{array}$$

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Solve:

$$5 + 2(x - 2) = 19$$

$$5 + 2x - 4 = 19$$

$$\begin{array}{r} +2x = 19 \\ -1 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{18}{2}$$

$$x = 9$$

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Solve:

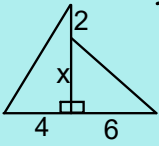
$$4k - 3(8k - 60) = -20$$

$$4k - 24k + 180 = -20$$

$$\begin{array}{r} -20k = -200 \\ \frac{-20k}{-20} = \frac{-200}{-20} \\ k = 10 \end{array}$$

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The figure below has a total area of 29 square units. Find the value of x .



$$\begin{aligned}
 A &= B \cdot g + 5 \text{ small} \\
 A &= \frac{1}{2} b b + \frac{1}{2} b h \\
 29 &= \frac{1}{2} \cdot 4 \cdot (x+2) + \frac{1}{2} \cdot 6 \cdot x \\
 29 &= 2x + 4 + 3x \quad (x=5) \\
 25 &= 5x \\
 x &= 5
 \end{aligned}$$

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Hwk:

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