

**Homework**

**More Two-Step Equations**

An equation in the form  $p(x + q) = r$  contains two factors,  $p$  and  $(x + q)$  and is considered a two-step equation.

**Example 1**

**Solve  $6(x + 2) = 42$ . Check your solution.**

$6(x + 2) = 42$ $\frac{6(x + 2)}{6} = \frac{42}{6}$ $x + 2 = 7$ $\frac{-2}{-2} = \frac{-2}{-2}$ $x = 5$	Write the equation. Division Property of Equality Simplify. Subtraction Property of Equality Simplify.
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<p><b>Check</b>     <math>6(x + 2) = 42</math></p> $6(5 + 2) \stackrel{?}{=} 42$ $6(7) \stackrel{?}{=} 42$ $42 = 42 \checkmark$	Write the original equation. Replace $x$ with 5. Add. Multiply. The solution checks.
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The solution is 5.

**Example 2**

**Solve  $\frac{4}{5}(x - 5) = 4$ . Check your solution.**

$\frac{4}{5}(x - 5) = 4$ $\frac{5}{4} \cdot \frac{4}{5}(x - 5) = \frac{5}{4} \cdot 4$ $(x - 5) = \frac{5}{4} \cdot \frac{4}{1}$ $x - 5 = 5$ $\frac{+5}{+5} = \frac{+5}{+5}$ $x = 10$	Write the equation. Multiplication Property of Equality $\frac{5}{4} \cdot \frac{4}{5} = 1$ ; write 4 as $\frac{4}{1}$ . Simplify. Addition Property of Equality Simplify.
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<p><b>Check</b>     <math>\frac{4}{5}(x - 5) = 4</math></p> $\frac{4}{5}(10 - 5) = 4$ $\frac{4}{5}(5) = 4 \checkmark$	Write the original equation. Replace $x$ with 10. Subtract then multiply. The solution checks.
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The solution is 10.

**Exercises**

**1.**  $7(x + 4) = 49$

**2.**  $2(x - 8) = -22$

**Solve each equation.**

**3.**  $10(x + 3) = -20$

**4.**  $25(x - 3) = 175$

**5.**  $\frac{3}{4}(x - 12) = 3$

**6.**  $\frac{2}{3}(x + 4) = 14$