8.4 More Two-Step Equations

This section will continue solving more two-step equations. You can use either divide both sides by the number on the outside or use the distributive property.

Here are the two methods:

$\frac{4(x+3)}{4} = \frac{28}{4}$

$x + 3 = 7$

$-3 \quad -3$

$\boxed{x = 4}$

$4(x+3) = 28$

$4x + 12 = 28$

$-12 \quad -12$

$\frac{4x}{4} = \frac{16}{4}$

$\boxed{x = 4}$

Example: Solve each equation.

1.) $\frac{-2(y-3)}{-2} = \frac{22}{-2}$

$y - 3 = -11$

$+3 \quad +3$

$\boxed{y = -8}$

2.) $\frac{5(x+6)}{5} = \frac{40}{5}$

$x + 6 = 8$

$-6 \quad -6$

$\boxed{x = 2}$

Example: Solve each equation.

3.) $\frac{5}{3} \cdot \frac{3}{5}(m - 6) = -9 \cdot \frac{5}{3}$

$\frac{-3}{1} \cdot \frac{5}{3} = \frac{-15}{1}$

$m - 6 = -15$

$+6 \quad +6$

$m = -9$

4.) $\frac{3}{2} \cdot \frac{2}{3}(k - 5) = -4 \cdot \frac{3}{2}$

$\frac{-2}{1} \cdot \frac{3}{1} = \frac{-6}{1}$

$k - 5 = -6$

$+5 \quad +5$

$k = -1$

Example: Solve each equation.

5.) $9(-3 + x) = -2$

$-27 + 9x = -2$

$+27 \quad +27$

$\frac{9x}{9} = \frac{25}{9}$

$x = \frac{25}{9}$

6.) $11 = 5(g - 3)$

$11 = 5g - 15$

$+15 \quad +15$

$\frac{26}{5} = \frac{5g}{5}$

$g = \frac{26}{5}$

Example: Solve each equation.

7.) $6(y + 4) = -15$

$6y + 24 = -15$

$-24 \quad -24$

$\frac{6y}{6} = \frac{-39}{6}$

$y = \frac{-39}{6} \div 3 \div 3$

$y = \frac{-13}{2}$

8.) $3(x + 2) = 13$

$3x + 6 = 13$

$-6 \quad -6$

$\frac{3x}{3} = \frac{7}{3}$

$x = \frac{7}{3}$