

Solving Multistep Equations

Directions: Before we are ready to solve linear systems of equations, we will spend some time reviewing how to solve multi-step equations in one variable. Walk through Examples 1 – 4, then solve the equations below in your notebook. Show all work. **This assignment is worth 10 points and student that complete and give to the sub this week will earn a bonus 5 points!**

Example 1 Solve the equation $3x + 6 = -8$

$$\begin{array}{r} 3x + 6 = -8 \\ -6 \quad -6 \\ \hline 3x = -14 \\ \frac{3x}{3} = \frac{-14}{3} \\ x = -\frac{14}{3} \end{array}$$

Example 2 Solve the equation $\frac{1}{4}x + 5 = 13$

$$\begin{array}{r} \frac{1}{4}x + 5 = 13 \\ -5 \quad -5 \\ \hline \frac{1}{4}x = 8 \\ \frac{4}{4} \cdot \frac{1}{4}x = \frac{4}{4} \cdot 8 \\ x = 32 \end{array}$$

Example 3 Solve the equation $4(x - 3) + 6 = 18$

$$\begin{array}{r} 4(x - 3) + 6 = 18 \\ -6 \quad -6 \\ \hline 4(x - 3) = 12 \\ 4x - 12 = 12 \\ +12 \quad +12 \\ \hline 4x = 24 \\ \frac{4x}{4} = \frac{24}{4} \\ x = 6 \end{array}$$

Example 4 Solve the equations $\frac{1}{2}(x + 2) = 7$

$$\begin{array}{r} 2 \cdot \frac{1}{2}(x + 2) = 7 \cdot 2 \\ x + 2 = 14 \\ -2 \quad -2 \\ \hline x = 12 \end{array}$$

1.) $2x + 7 = 15$

2.) $3x - 1 = 8$

3.) $6x + 4 = 38$

4.) $14 - 2x = 6$

5.) $8x - 2 = 38$

6.) $\frac{1}{3}x - 5 = -1$

7.) $\frac{1}{2}x + 13 = 20$

8.) $\frac{4}{3}x + 3 = 23$

9.) $3(x - 2) = 18$

10.) $12(2 - x) = 6$

11.) $4(x + 3) = 36$

12.) $5(x + 1) = 45$

13.) $-(x + 4) = -8$

14.) $9/2(x + 3) = 27$

15.) $-2(3 - 2x) = 34$

16.) $2x + (x + 1) = -2$

17.) $4x - 3(x - 2) = 21$

18.) $\frac{1}{4}(-2 + x) = 12$

19.) $\frac{1}{6}(x + 3) = 8$

20.) $\frac{2}{5}(3 - x) = 10$