

2.3A Solving Multi-Step Equations (3-Step)

Solve the equation.

$$\begin{aligned} \text{(Ex.) } \underline{3x - 12} &= \underline{2x + 5} - 3 \\ 2x &\cancel{-12} = 5 - 3 \\ \underline{2x} - 4 & \\ \underline{2} &\quad \underline{2} \\ x &= 2 \end{aligned}$$

Steps

- 1) Eliminate all parentheses by distributing. (If possible)
- 2) Combine all like terms. (If possible)
- 3) Add or subtract to isolate the variable term.
- 4) Multiply or divide to isolate term completely.
 - Whatever you do to one side you must do to the other.

Solve the equation. (Must show all steps)

1. $7x - 3 = 23$

2. $-2x + 7 = 15$

3. $8 = 3x - 1$

4. $4x - 11 = -3$

5. $8 + 5x = -7$

6. $-2x - 5 = -13$

7. $\frac{x}{2} + 3 = 9$

8. $\frac{x}{3} - 5 = 2$

9. $6 + \frac{x}{4} = -1$

10. $\frac{1}{2}x + 6 = 6$

11. $\frac{2}{3}x - 2 = 4$

12. $1 = \frac{3}{2}x + 7$

13. $5(x + 4) = 45$

14. $3(x - 2) = 15$

15. $16 = 4(x - 5)$