

Algebra I Worksheet #8 Unit 2 Selected Solutions

Solve the following equations. Show your steps neatly organized.

The SID Method

$$\begin{array}{l} \text{Simplify} \left\{ \begin{array}{l} 2. \quad 2x + 3(x + 3) = 24 \\ 2x + 3x + 9 = 24 \end{array} \right. \\ \text{Isolate} \left\{ \begin{array}{l} 5x + 9 = 24 \\ \underline{-9 \quad -9} \\ 5x = 15 \end{array} \right. \\ \text{Divide} \left\{ \begin{array}{l} \frac{5x}{5} = \frac{15}{5} \\ x = 3 \end{array} \right. \end{array}$$

$$\begin{array}{l} \text{Simplify} \left\{ \begin{array}{l} 3. \quad 2(x + 3) + 5(x - 1) = 36 \\ 2x + 6 + 5x - 5 = 36 \end{array} \right. \\ \text{Isolate} \left\{ \begin{array}{l} 7x + 1 = 36 \\ \underline{-1 \quad -1} \\ 7x = 35 \end{array} \right. \\ \text{Divide} \left\{ \begin{array}{l} \frac{7x}{7} = \frac{35}{7} \\ x = 5 \end{array} \right. \end{array}$$

$$\begin{array}{l} \text{Simplify} \left\{ \begin{array}{l} 9. \quad 3(2x - 6) = 4(x + 3) \\ 6x - 18 = 4x + 12 \\ \underline{-4x \quad -4x} \end{array} \right. \\ \text{Isolate} \left\{ \begin{array}{l} 2x - 18 = 12 \\ \underline{+18 \quad +18} \end{array} \right. \\ \text{Divide} \left\{ \begin{array}{l} \frac{2x}{2} = \frac{30}{2} \\ x = 15 \end{array} \right. \end{array}$$

$$\begin{array}{l} \text{Simplify} \left\{ \begin{array}{l} 19. \quad 4(5x + 8) + 3(2x - 7) = 3(8x + 5) \\ 20x + 32 + 6x - 21 = 24x + 15 \\ \underline{-24x \quad -24x} \end{array} \right. \\ \text{Isolate} \left\{ \begin{array}{l} 2x + 11 = 15 \\ \underline{-11 \quad -11} \end{array} \right. \\ \text{Divide} \left\{ \begin{array}{l} \frac{2x}{2} = \frac{4}{2} \\ x = 2 \end{array} \right. \end{array}$$