

## S2 Equations Homework

$$\begin{aligned} \textcircled{1} \quad 3x - 2 &= x + 6 \\ 2x &= 8 \quad \checkmark \\ x &= 4 \quad \checkmark \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad 3(y - 2) &= 12 \\ 3y - 6 &= 12 \quad \checkmark \\ 3y &= 18 \quad \checkmark \\ y &= 6 \quad \checkmark \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad 7 - 3y &= 1 \\ 3y &= 6 \quad \checkmark \\ y &= 2 \quad \checkmark \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad \frac{x}{5} &= 6 \\ \textcircled{\times 5} \quad x &= 30 \quad \checkmark \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad 3(3w - 1) - 11 &= 40 \\ 9w - 3 - 11 &= 40 \\ 9w - 14 &= 40 \\ 9w &= 54 \quad \checkmark \\ w &= \frac{54}{9} \quad \checkmark \\ w &= 6 \quad \checkmark \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 2(m + 3) - 2 &= 7 + 3m \\ 2m + 6 - 2 &= 7 + 3m \\ 2m + 4 &= 7 + 3m \\ 4 &= 7 + m \quad \checkmark \\ m &= -3 \quad \checkmark \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad 3x - 1 &= 7 - (8 + 3x) \\ 3x - 1 &= 7 - 8 - 3x \quad \checkmark \\ 3x - 1 &= -1 - 3x \\ 6x - 1 &= -1 \quad \checkmark \\ 6x &= 0 \quad \checkmark \\ x &= 0 \quad \checkmark \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad \frac{y - 1}{3} &= 2 \\ \textcircled{\times 3} \quad y - 1 &= 6 \quad \checkmark \\ y &= 7 \quad \checkmark \end{aligned}$$

$$\textcircled{9} \quad \frac{(x+3)}{3} + \frac{x}{4} = 1$$

$$\begin{aligned} \textcircled{\times 12} \quad & 4(x+3) + 3x = 12 \\ & 4x + 12 + 3x = 12 \\ & 7x = 0 \\ & x = 0 \end{aligned}$$

$$\textcircled{10} \quad \frac{(x+3)}{4} - \frac{(x-1)}{2} = 0$$

$$\begin{aligned} \textcircled{\times 4} \quad & x+3 - 2(x-1) = 0 \\ & x+3 - 2x+2 = 0 \\ & -x+5 = 0 \\ & x = 5 \end{aligned}$$

$$\textcircled{11} \quad \frac{1}{2}(2x-1) = \frac{1}{3}(2x+5)$$

$$\begin{aligned} \textcircled{\times 6} \quad & 3(2x-1) = 2(2x+5) \\ & 6x-3 = 4x+10 \\ & 2x = 13 \\ & x = 6\frac{1}{2} \end{aligned}$$

$$\textcircled{12} \quad \frac{2x}{3} - \frac{1}{2} = \frac{3x}{4}$$

$$\begin{aligned} \textcircled{\times 12} \quad & 8x - 6 = 9x \\ & -6 = x \\ & x = -6 \end{aligned}$$

39+5

44