

8/21 Algebra 1 - Downing

HW Quiz - Go over HW

1.2 Multi-step equations

Examples

1) $-12 = 9x - 6x + 15$ * Same side, use same symbol to combine "like terms"

$$\begin{array}{r} -12 = 9x - 6x + 15 \\ -12 = 3x + 15 \\ \hline -15 \quad -15 \end{array}$$

$$\frac{-27}{3} = \frac{3x}{3}$$

$$\boxed{-9 = x}$$

2) $2(1-x) + 3 = -8$

$$2 - 2x + 3 = -8$$

$$\begin{array}{r} -2x + 5 = -8 \\ -5 \quad -5 \end{array}$$

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

$$\boxed{x = \frac{13}{2}}$$

3) $-4(2m+5) - 3m = 35$

$$-8m - 20 - 3m = 35$$

$$\begin{array}{r} -11m - 20 = 35 \\ +20 \quad +20 \end{array}$$

$$\frac{-11m}{-11} = \frac{55}{-11}$$

$$\boxed{m = -5}$$

4) $2x - 5 = 6x + 10$

$$\begin{array}{r} -5 = 4x + 10 \\ -10 \quad -10 \end{array}$$

$$\frac{-15}{4} = \frac{4x}{4}$$

$$\boxed{\frac{-15}{4} = x}$$

Special Cases

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

$$\begin{array}{r} 3x - 6 = 3x + 5 \\ -3x \quad -3x \end{array}$$

$$-6 \neq 5 \leftarrow \text{False}$$

$\boxed{\text{No Solution}}$

6) $2(x-5) = 2x-10$

$$\begin{array}{r} 2x - 10 = 2x - 10 \\ -2x \quad -2x \end{array}$$

$$-10 = -10 \leftarrow \text{True}$$

$\boxed{\text{All Real Numbers}}$

$$7) \quad 7x + 8 = 4(x + 2)$$

$$\begin{array}{r} 7x + 8 = 4x + 8 \\ -4x \quad -4x \end{array}$$

$$\begin{array}{r} 3x + 8 = 8 \\ -8 \quad -8 \end{array}$$

$$\frac{3x}{3} = \frac{0}{3}$$

$$\boxed{x = 0}$$

HW WS 1.2 Solving Multi-Step Equations
#1-6