

Solving Equations with Variables on Both Sides

Solve each equation.

1) $6b - 4 = -2b - 28$

$$\begin{array}{r} +2b \qquad +2b \\ \hline \end{array}$$

$$8b - 4 = -28$$

$$\begin{array}{r} +4 \qquad +4 \\ \hline \end{array}$$

$$8b = -24$$

$$\begin{array}{r} 8 \qquad 8 \\ \hline \end{array}$$

$$b = -3$$

2) $-3(2y - 8) = 4(y - 4)$

$$-6y + 24 = 4y - 16$$

$$\begin{array}{r} +6y \qquad +6y \\ \hline \end{array}$$

$$24 = 10y - 16$$

$$\begin{array}{r} +16 \qquad +16 \\ \hline \end{array}$$

$$40 = 10y$$

$$\begin{array}{r} 10 \qquad 10 \\ \hline \end{array}$$

$$4 = y$$

3) $-3m + 18 = -3(m - 6)$

$$-3m + 18 = -3m + 18$$

Answer: All Real Numbers

4) $5(x - 2) = 8x + 2 - 3x$

$$5x - 10 = 5x + 2$$

$$\begin{array}{r} -5x \qquad -5x \\ \hline \end{array}$$

$$-10 = 2 \quad \times$$

Since $-10 \neq 2$, No Solution