

Bell Work

$$\begin{array}{r} 1. \quad 2x + 6 = 16 \\ \quad \quad \cancel{-6} \quad \cancel{-6} \\ \hline \quad \quad \cancel{2}x = \frac{10}{\cancel{2}} \end{array}$$

$$x = 5$$

$$\begin{array}{r} 2. \quad \underline{2} - 2x + \underline{3} = -11 \\ \quad \quad -2x + \cancel{5} = -11 \\ \quad \quad \quad \quad \cancel{-5} \quad \quad \cancel{-5} \\ \hline \quad \quad \cancel{-2}x = \frac{-16}{\cancel{-2}} \end{array}$$

$$x = 8$$

1-4 Special Cases

Objectives:

- I can identify solutions of equations
- I can solve equations that have one solution, no solution, and infinitely many solutions

Vocabulary

No solution: $1 = 4$ Doesn't have an answer.

One solution:

$$X = 6$$

Many solutions:

$$4 = 4$$

Determine the solution to the following equations

$$3n - 5 = -8(6 + 5n)$$

$$3n - 5 = -48 - 40n$$

$$\begin{array}{r|l} +40n & +40n \\ \hline \end{array}$$

$$43n - 5 = -48$$

$$\begin{array}{r|l} +5 & +5 \\ \hline \end{array}$$

$$\begin{array}{r|l} 43n & -43 \\ \hline 43 & 43 \end{array}$$

$$n = -1$$

Types of solutions:

$$-2 = 7 \quad \text{no solution}$$

$$5 = 5 \quad \text{Many}$$

$$x = -9 \quad \text{One}$$

$$\overset{\curvearrowright}{-2(m+4)} = -2m - 3$$

$$\begin{array}{r|l} -2m - 8 & -2m - 3 \\ +2m + 8 & +2m + 8 \\ \hline 0 & 5 \end{array}$$

$$3k - 7 = \underline{4k} - 7 - \underline{k}$$

$$\begin{array}{r|l} 3k - 7 = 3k - 7 & \text{Many} \\ -3k & -3k \\ \hline 0 & -7 \\ +7 & +7 \\ \hline 0 & 0 \\ 0 = 0 & \end{array}$$

Evaluate the following equations for the indicated variable

$$\begin{array}{r} \cancel{4m} - 4 = \cancel{4m} \\ \cancel{-4m} \quad \downarrow \quad \cancel{-4m} \\ \hline -4 = 0 \end{array}$$

No Sol'n

$$8p - 1 = \underline{5p} - 1 + \underline{3p}$$
$$\begin{array}{r|l} \cancel{8p} - 1 & \cancel{8p} - 1 \\ - \cancel{8p} & - \cancel{8p} \\ \hline & - 1 \end{array}$$

Many

$$\begin{array}{r|l}
 5p - 14 = 8p + 4 & \\
 \hline
 -5p & -5p \\
 \hline
 -14 & 3p + 4 \\
 -4 & -4 \\
 \hline
 -18 & 3p \\
 \hline
 -6 & +6 \\
 \hline
 & \text{one}
 \end{array}$$

$$\begin{array}{r|l} p - 4 = -9 + p & \\ +4 & +4 \\ \hline \cancel{p} - 4 = -9 + \cancel{p} & \\ -\cancel{p} & -\cancel{p} \\ \hline 0 = -5 & \\ \text{No sol'n} & \end{array}$$