

Warm-Up: Solve AND Check

Law
1) $\frac{x}{6} - 5 = -8$

Fab
4) $13 + 2(5c - 2) = 29$

Sel
2) $4y + 5 = -7$

Hig
5) $-8 = \frac{4}{5}k$

Joa
3) $2x - 5x + 6.3 = -14.4$

Ana
6) $\frac{3x+7}{2} = 8$

$$\begin{array}{r|l} \cancel{\frac{x}{6}} - \cancel{5} & = -8 \\ +5 & \\ \hline \frac{x}{6} & = -3 \\ \times 6 & \\ \hline x & = -18 \end{array}$$

$$4) 13 + 2(5c - 2) = 29$$

$$\begin{array}{r|l} 13 + 10c - 4 & = 29 \\ 9 + 10c & = 29 \\ -9 & -9 \\ \hline 10c & = 20 \\ \div 10 & \div 10 \\ \hline c & = 2 \end{array}$$

$$\begin{array}{r|l} \textcircled{2} \cancel{4x} + \cancel{5} & = -7 \\ -5 & -5 \\ \hline 4x & = -12 \\ \div 4 & \div 4 \\ \hline x & = -3 \end{array}$$

$$\begin{array}{r} 5 - 8 = \frac{4}{5}k \\ \frac{5}{4} - \frac{8}{1} = \frac{4}{5}k \\ \frac{5}{4} - \frac{32}{4} = \frac{4}{5}k \\ \frac{-27}{4} = \frac{4}{5}k \\ \times \frac{5}{4} \\ \frac{-135}{16} = k \end{array}$$

3) $2x - 5x + 6.3 = -14.4$

$$\begin{array}{r|l} -3x + \cancel{6.3} & \\ -6.3 & -6.3 \\ \hline -3x & = -20.7 \\ \div -3 & \div -3 \\ \hline x & = 6.9 \end{array}$$

6) $\frac{3x+7}{2} = 8.2$

$$\begin{array}{r|l} 3x + 7 & = 16 \\ -7 & -7 \\ \hline 3x & = 9 \\ \div 3 & \div 3 \\ \hline x & = 3 \end{array}$$

$$x = 3$$

1.3 Solving Equations with Variables on Both Sides

- Solve linear equations that have variables on both sides.
- Identify special solutions of linear equations.

Ex 1 Solve

$$\begin{array}{r}
 10 - 4x = -9x \\
 + 4x \quad + 4x \\
 \hline
 10 = -5x \\
 -5 \quad -5 \\
 \hline
 x = -2
 \end{array}$$

Another way

$$\begin{array}{r}
 10 - 4x = -9x \\
 + 9x \quad + 9x \\
 \hline
 10 + 5x = 0 \\
 -5x \quad -5x \\
 \hline
 10 = -5x \\
 -5 \quad +5 \\
 \hline
 -2 = x \\
 \hline
 x = -2
 \end{array}$$

Ex 2 Solve

$$\begin{array}{r}
 3(3x - 4) = \frac{1}{4}(32x + 56) \\
 9x - 12 = 8x + 14 \\
 -8x \quad -8x \\
 \hline
 x - 12 = 14 \\
 + 12 \quad + 12 \\
 \hline
 x = 26
 \end{array}$$

calc
(1/A) * (56)You Try!

1) $-2x = 3x + 10$

2) $\frac{1}{2}(6x - 4) = -5x + 1$

3) $-\frac{3}{4}(8n + 12) = 3(n - 3)$

Classroom Expectations

Talking: Time to talk and time not

- if Teacher is talking
the student is listening
(Stay quiet & focus)
- Please raise hand and wait
to be called on

Disruptions:

1 warning the detention

Assignments:

WU, Notes, CW/HW etc
Done in a timely manner

Warm-Up: Solve

$$1) \quad 5x + 3 = 23$$

$$x = 4$$

$$2) \quad \frac{n}{3} - 8 = -2$$

$$n = 18$$

$$3) \quad \frac{3}{4}x - 7 = 8$$

$$x = 20$$

$$4) \quad \frac{c-5}{4} = 3 \quad c = 17$$

$$5) \quad -12 + 6x = 9x + 15$$

$$x = -9$$

$$\begin{array}{r} \frac{3}{4}x - 7 = 8 \\ +7 \quad +7 \\ \hline \frac{3}{4}x = 15 \quad \left(\frac{4}{3}\right) \\ \frac{3}{4} \cdot \frac{4}{3} x = 15 \cdot \frac{4}{3} \\ x = \frac{60}{3} = 20 \end{array}$$

$$\begin{array}{r} 4) \quad \frac{c-5}{4} = 3 \cdot 4 \\ \frac{c-5}{4} = 12 \\ +5 \quad +5 \\ \hline c = 17 \end{array}$$

Vocabulary

Special Cases

Identity - True Statement

ex) $5 = 5$

Infinite Solutions

No Solution - False Statement

ex) $9 = 5$ wrong

Ex 3 Solve

$$a) \quad 3(5x+2) = 15x$$

$$\begin{array}{r} 15x + 6 = 15x \\ -15x \quad \quad -15x \end{array}$$

$$6 \neq 0$$

False

No Solution

$$b) \quad -2(4x+1) = -8x-2$$

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

$$-2 = -2$$

True

Infinite Solutions

You Try!

$$1) 4(1-p) = -4p + 4$$

$$2) 6m - m = \frac{5}{6}(6m - 10)$$

$$3) 10k + 7 = \underbrace{-3k - 10k}_{\text{CLT}}$$

$$4) 3(2a - 2) = 2(3a - 3)$$

HW
1-16
19-26