

3.4 Warm-Up:

Solve the equation.

1. $2m - 6 + 4m = 12$

2. $6a - 5(a - 1) = 11$

3. A charter bus company charges \$11.25 per ticket plus a handling charge of \$.50 per ticket, and a \$15 fee for booking the bus. If a group pays \$297 to charter a bus, how many tickets did they buy?

$$1. \quad 2m - 6 + 4m = 12$$

$$6m - 6 = 12$$

$+6 \qquad +6$

$$6m = 18$$

$$m = 3$$

$$2. \quad 6a - 5(a - 1) = 11$$

$$6a - 5a + 5 = 11$$

$$a + 5 = 11$$

$$\begin{array}{r} a + 5 = 11 \\ -5 \quad -5 \\ \hline a = 6 \end{array}$$

3. $x = \#$ of tickets

$$11.25x + .50x + 15 = 297$$

$$11.75x + 15 = 297$$

$-15 \quad -15$

$$x = 24 \text{ tickets}$$

$$11.75x = 282$$

$$7 - 8x = 4x - 17$$

$$+ 8x \quad + 8x$$



$$7 = 12x - 17$$

$$+ 17$$

$$+ 17$$



$$24 = 12x$$

$$2 = x$$

$$9x - 5 = \frac{1}{4}(16x + 60)$$

$$\begin{array}{r} 9x - 5 = 4x + 15 \\ +5 \qquad \qquad +5 \\ \hline \end{array}$$

$$\begin{array}{r} 9x = 4x + 20 \\ -4x \qquad -4x \\ \hline \end{array}$$

$$5x = 20$$

$$\boxed{x=4}$$

Equation

$$24 - 3m = 5m \quad \text{CJ}$$

$$20 + c = 4c - 7 \quad \text{Brenton}$$

$$9 - 3k = 17 - 2k \quad \text{Dylan}$$

$$5z - 2 = 2(3z - 4) \quad \text{Kara, Ali}$$

$$3 - 4a = 5(a - 3) \quad \text{Walker, Bryce}$$

$$8y - 6 = \frac{2}{3}(6y + 15) \quad \text{Clayton}$$

$$3x = 3(x + 4)$$

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

$$0x = 12$$

$$0 \neq 12$$

No Solution

\emptyset

$$2x + 10 = 2(x + 5)$$

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

$$2x = 2x$$

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

$$0 = 0$$

All real #'s

$$5x - 6 = 5(x - 1)$$

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

$$\begin{array}{r} 5x - 1 = 5x \\ -5x \qquad -5x \end{array}$$

$$-1 = 0$$

No Solution

$$4(3x + 2) = 2(6x + 4)$$

$$\begin{array}{r} 12x + 8 = 12x + 8 \\ -12x \qquad -12x \end{array}$$

$$8 = 8$$

All real #'s

Equation

$$9z + 12 = 9(z + 3)$$

$$9z + 12 = 9z + 27$$

No solution

$$7w + 1 = 8w + 1$$

$$\begin{array}{r} -7w \quad -7w \\ \hline -1 = w + 1 \\ -1 \end{array}$$

$$w = 0$$

$$3(2a + 2) = 2(3a + 3)$$

$$6a + 6 = 6a + 6$$

All real #'s

Steps for solving linear equations:

$$7(r + 7) = 5r + 59$$

- 1) Use distributive property to get rid of grouping signs.
- 2) Combine like terms.
- 3) Get variable terms on one side of equals sign and constant on the other by doing the same thing to both sides of the equation.
- 4) Do the same thing to each side to solve for the variable.
- 5) Check your answer.

Homework:

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#'s 3-26, 50

Quiz next time!!