

Do Now:

Describe and correct the error.

$$-2(5 - n) = 2$$

$$-10 \ominus 2n = 2$$

$$-2n = 12$$

$$n = -6$$

$$-10 + 2n = 2$$

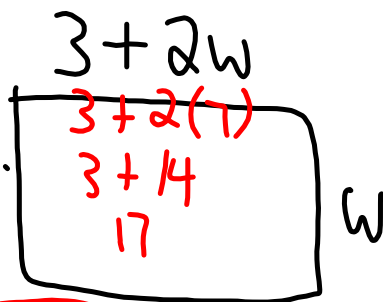
$$2n = 12$$

$$n = 6$$

①7, 13, 3, ①9, 18

①17

a) $P = 48 \text{ m}$



$w = 7 \text{ m}$
 $l = 17 \text{ m}$

b) $P = 3 + 2w + 3 + 2w + w + w$

$P = 6 + 6w$

c) $48 = 6 + 6w$
 $-6 \quad -6$

$42 = 6w$
 $6 \quad 6$

$7 = w$

(19)

$$390 = 195 + 3(30) + 42h$$

$$390 = \boxed{195 + 90} + 42h$$

$$\begin{array}{r} 390 \\ - 285 \\ \hline 105 \end{array} = 285 + 42h$$

$$\begin{array}{r} 105 \\ - 84 \\ \hline 21 \end{array}$$

$$\frac{105}{42} = \frac{42h}{42}$$

$$h = \frac{105}{42}$$

$$= 2 \frac{21}{42} = 2 \frac{1}{2}$$

2.5 hours

$$\begin{array}{r} 42 \overline{) 105.0} \\ \underline{- 84} \\ 210 \\ \underline{- 210} \\ 0 \end{array}$$

$$\begin{array}{r} 42 \\ \times 5 \\ \hline 210 \end{array}$$

Do Now: Simplify

1.) $5x + 6 + 2x$

2.) $1 - 3y - 5 + 4y$

3.) $-2(k + 9)$

4.) $-3(17 - 2y)$

3.3 Solving Equations with Variables on Both Sides

7.NS.1

7.NS.2

7.EE

- SWBAT solve equations with variables on both sides.
- SWBAT understand numbers; understand ways of representing numbers; compute fluently.

- **Calculators: No**

Solving Equations with Variables on Both Sides

- Move the variable with the smallest coefficient to the other side of the equation
- Then solve the equation for the variable

$$\text{Solve: } 5k - 8 = 7k + 18$$

$$\begin{array}{r} -5k \quad -5k \\ \hline \end{array}$$

$$\begin{array}{r} -8 = 2k + 18 \\ -18 \quad -18 \\ \hline \end{array}$$

$$\begin{array}{r} -26 = 2k \\ \hline 2 \quad 2 \end{array}$$

$$\textcircled{-13 = k}$$

Solve: $4(-2 + 3x) = 12x$

$$-8 + \cancel{12x} = \cancel{12x} + 0$$

$$-8 = 0 \text{ FALSE}$$

$$\begin{array}{r} -\cancel{8} = 0 \\ +8 \quad +8 \\ \hline 0 = 8 \end{array}$$

No Solution

Solve: $6x + 2 = 2(3x + 1)$

$$\begin{array}{r} \cancel{6x} + 2 = \cancel{6x} + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 = 2 \\ -2 \quad -2 \\ \hline 0 = 0 \end{array}$$

$$2 = 2 \quad \text{TRUE}$$

All real numbers

\mathbb{R}

Bolded
"R"

Solve:

1. $5(2x + 1) = 10x$ No Solution

2. $7n - 5 = 10n + 13$ $n = -6$

3. $7(2x + 3) = 21 + 14x$

$$\begin{array}{l} \cancel{14x} + 21 = 21 + \cancel{14x} \\ \hline 21 = 21 \leftarrow \text{True} \end{array}$$

\mathbb{R}

A bus tour of celebrities' homes costs \$300 for the bus and tour guide plus \$8 per person for lunch. How many people does a tour group need to have in it so that the cost per person is \$20?

Find the perimeter of the square All sides equal

$$x + 4 = 2x$$

$$\underline{-x}$$

$$4 = x$$

$$P = 8 + 8 + 8 + 8$$

$$= 32 \text{ units}$$

Answer

Find the perimeter of the square

$5x + 14 = 6 + x$

$x = -2$

$5(-2) + 14$
 $-10 + 14$
 4

$6 + x$
 $6 + (-2)$
 $6 - 2$
 4

$P = 4 + 4 + 4 + 4$
 $= 16 \text{ units}$

Write a verbal sentence as an equation.
Then solve the equation.

Three less than eleven times a number is
equal to nine plus five times the number.

$$11n - 3 = 9 + 5n$$

$$n = 2$$

Write a verbal sentence as an equation.
Then solve the equation.

Twelve less than negative nine times a number is equal to eight minus four times the number.

Exit Pass 3.3

Explain why equations have:

1. no solution
2. all real number solutions



"Don't blame the sea if you cannot catch a fish."

Working individually or with a partner, complete the workbook.

Workbook pg. 35



Reflection of Today's Lesson

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Homework

pg. 133-134 #10, 11-29 odds

