

Blue Book

1.3 pg 23 #1, 2, 13-29 odd 30-40 Even

1. $x=3$ $3x-5=4x-9$?
 $3(3)-5=4(3)-9$
 $9-5=12-9$
 $4 \neq 3$ No, not a solution

2. ^{EXAMPLE} $4x+1=3x-2$

13 $0.1x=0.2(x+2)$
 $0.1x=0.2x+0.4$
 $\frac{-0.2x \quad -0.2x}{-0.1x = 0.4}$
 $\frac{-0.1 \quad -0.1}{-0.1 \quad -0.1} \quad x = -4$

15 ERROR \rightarrow $x-4=1$
 $x-4+4=1-4$ X Needs to Add 4

17 $15+0.5m=25+0.25m$
 $\frac{-0.25m \quad -0.25m}{15+0.25m=25}$
 $\frac{-15 \quad -15}{0.25m = 10}$
 $\frac{0.25 \quad 0.25}{m = 40 \text{ miles}}$

19 $3x-1=1-3x$
 $\frac{+3x \quad +3x}{6x-1=1}$
 $\frac{+1 \quad +1}{6x = 2}$
 $\frac{6 \quad 6}{x = \frac{1}{3}}$

21 $\frac{1}{2}x + \frac{1}{2}x = x+1$
 $1x = x+1$ or $x = x+1$ **NO SOLUTION**

23 $\frac{1}{3}(9x+3) = 3x+1$
 $3x+1 = 3x+1$ **ALL #'S are solutions**

25 $2x+4 = -(7x+6)$
 $2x+4 = -7x-6$
 $\frac{-2x}{-2x} \quad \frac{-2x}{-2x}$
 $\frac{4 = -5x-6}{+6 \quad +6}$
 $\frac{10 = -5x}{5 \quad 5}$ **x = 2**

27 $10x - 6x = 4x = 6x$
 $6x - 6x = 6x$ **NO SOLUTION**

29 $6(7x+7) = 7(6x+6)$
 $42x+42 = 42x+42$ **ALL #'S are solutions**

30 Error $0=0$
 solution $n=0$ **True $0=0$ means all #'s are solutions**

32 Areas \triangle \square
 $\frac{2}{2}(x+1) = 1 \cdot x$? $x+1 \neq x$ **NO**

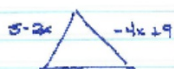
34 P Pizza $52 + 180w$
D Deli $26 + 90w$

$$52 + 180w = 26 + 90w \quad ?$$

↖ NO
Always twice as many crusts

36

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

$$5 - 2x = -4x + 9$$


$$\begin{array}{l} 5 - 2(2) = 1 \\ \text{Side} = 1 \text{ unit} \\ \text{Perimeter} = 3 \text{ units} \end{array}$$

38 Octagon

$$\begin{array}{r} \frac{4}{3}x - \frac{1}{3} = x + 7 \\ +\frac{1}{3} \quad +\frac{1}{3} \\ \hline \frac{4}{3}x = x + 7\frac{1}{3} \\ -\frac{1}{3}x \quad -\frac{1}{3}x \\ \hline -\frac{1}{3}x = \frac{22}{3} \end{array}$$

$$\left(+\frac{2}{3}\right) \cdot \frac{1}{3}x = \frac{22}{3} \left(+\frac{2}{3}\right) \quad x = 22$$

$$\text{side length} = 29 \quad x + 7 = 22 + 7 = 29$$

$$8 \text{ sides: } 29 \cdot 8 = \text{Perimeter} = 232 \text{ units}$$

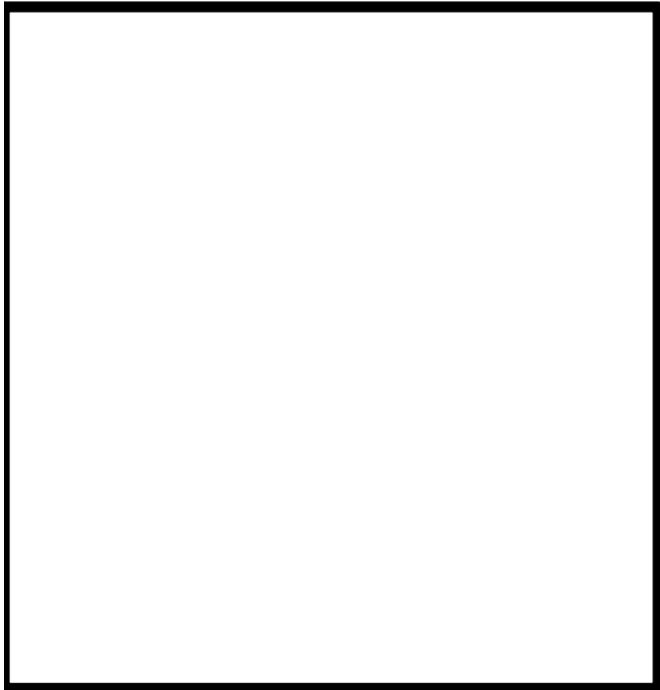
40 $0.25 + 7 = \frac{1}{3}x - 8$

* use fractions b/c $\frac{1}{3} =$ repeating decimal

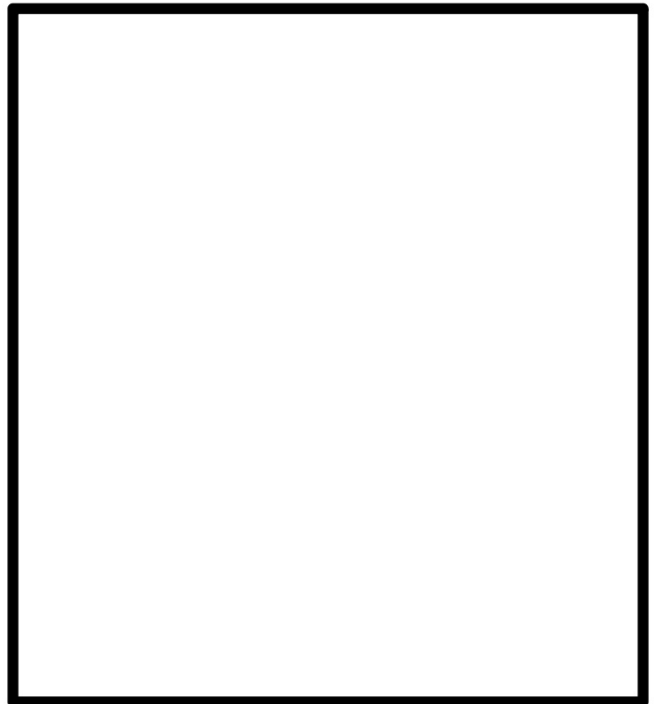
42 25 grams

Warm-Up (complete this in your spiral)

1. $3x - 15 = 6x + 9$



2. $-7 + 2m = 9 - 14m$



1.4 Notes 9/21

Learning Target: Rewrite Literal Equations.

Literal Equation = Equation with 2 or more variables

$$2y + 4x = 6$$

$$V = \frac{1}{3} (Bh)$$

$$V = \frac{1}{3} \pi r h$$

An equation is **BALANCED**

What's on the LEFT **=** What's on the RIGHT.

You **MUST** use algebraic properties of equality to "move" terms and coefficients from one side of an equation to the other.

Addition/Subtraction Property of Equality
Multiplication/Division Property of Equality

Solutions for Literal Equations

What does it mean to solve for one variable?

Solve for y

$$2y + 4x = 6 \longrightarrow y = -2x + 3$$

Solve for h

$$V = \frac{1}{3}(Bh) \longrightarrow h = \frac{3V}{B}$$

Solve the Equation $-3y + 18x = 24$

for y



$$-3y + 18x = 24$$

$$\begin{array}{r} -18x \quad -18x \\ \hline -3y = -18x + 24 \\ \hline -3 \quad -3 \quad -3 \end{array}$$

$$y = 6x - 8$$

$$\begin{array}{r} -3y + 18 = 24 \\ \hline -18 \quad -18 \\ \hline -3y = 6 \\ \hline -3 \quad -3 \end{array}$$

$$y = -2$$

Solve the Equation $12y + 4x = 36$

for x

$$12y + 4x = 36$$

$$\begin{array}{r} -12y \quad -12y \\ \hline \end{array}$$

$$\frac{4x}{4} = -\frac{12y}{4} + \frac{36}{4}$$

$$x = -3y + 9$$

Solve for the given variable

$8x - 2y = 10$ for x

$$\begin{array}{r} 8x - 2y = 10 \\ \quad \quad \quad +2y \quad +2y \\ \hline \end{array}$$

$$\frac{8x}{8} = \frac{2y}{8} + \frac{10}{8}$$

$$x = \frac{1}{4}y + 1\frac{1}{4}$$

$$x = 0.25y + 1.25$$

$30f = 10x - 5y$ for y

$$\begin{array}{r} 30f = 10x - 5y \\ -10x \quad \quad -10x \\ \hline \end{array}$$

$$\frac{30f - 10x}{-5} = \frac{-5y}{-5}$$

$$-6f + 2x = y$$

Homework
Worksheet