

1. $\underline{6g^2h} + \underline{7gh^2} - \underline{g^2h} + \underline{5hg^2} - \underline{8gh} + \underline{6g^2h^2} - \underline{4gh^2} + \underline{2gh} - \underline{5h^2g}$

$$10g^2h - 2gh^2 - 6gh + 6g^2h^2$$

2.) Sam was given 30 stamps for his birthday and plans to buy 4 stamps each month. Write an equation to model the number of stamps Sam will have after an unknown number of months.

$$4m + 30 = S$$

$m = \text{months}$
 $S = \text{stamps}$

3.) There are six Cokes in a pack and 12 Cokes in a case. Write an equation for the number of Cokes you will have if you purchase an unknown number of packs and cases.

$$6x + 12y = T$$

$x = 6$ $T = \text{total}$
 $y = 2$

$x = \text{pack}$
 $y = \text{case}$

4.) $30 - 10((6 - 2) + (4 - 1)^2) + 1$

$$\begin{aligned} & ((4) + (3)^2) \\ & 4 + 9 \\ & 30 - 10(13) + 1 \\ & 30 - 130 \\ & -100 + 1 = -99 \end{aligned}$$

Evaluate for $M = -6$ $Q = -2$ $R = 3$

4. $-Q - M^2$

$$\begin{aligned} & -(-2) - (-6)^2 \\ & 2 - 36 \\ & = -34 \end{aligned}$$

Evaluate for $M = -6$ $Q = -2$ $R = 3$

5. $2R^2 - MQ$

$$\begin{aligned} & 2(3)^2 - (-6)(-2) \\ & 18 - 12 \\ & = 6 \end{aligned}$$

6. Simplify.

$$\begin{aligned} & 9 + 2(6 - 2(4 - 7)^2) \div 4 \cdot 3 \\ & 9 + 2(6 - 2(-3)^2) \div 4 \cdot 3 \\ & 9 + 2(6 - 2(9)) \div 4 \cdot 3 \\ & 9 + 2(6 - 18) \div 4 \cdot 3 \\ & 9 + 2(-12) \div 4 \cdot 3 \\ & 9 - 24 \div 4 \cdot 3 \\ & 9 - 6 \cdot 3 \\ & 9 - 18 = -9 \end{aligned}$$

7. $8 - 12 \div 2 \cdot 3 + 7 \cdot 2 - 5 + 1$

$$\begin{aligned} & 8 - 6 \cdot 3 + 7 \cdot 2 - 5 + 1 \\ & 8 - 18 + 7 \cdot 2 - 5 + 1 \\ & 8 - 18 + 14 - 5 + 1 \\ & -10 + 14 - 5 + 1 \\ & 4 - 5 + 1 = 0 \end{aligned}$$

8.) There are 365 days in a year. Write an equation for the number of days in an unknown number of years.

$$\begin{aligned} d &= \text{days} \\ y &= \text{yrs} \\ 365y &= d \end{aligned}$$

9.) Use the table at the right.

a. Does each statement fit the data in the table?

Explain.

i. hours worked = lawns mowed \cdot 2

ii. hours worked = lawns mowed + 3

b. **Writing** Which statement in part (a) better describes the relationship between hours worked and lawns mowed? Explain.

Lawns Mowed	Hours
1	
2	
3	6

Notes: Solving Equations

Chapter 2

Is $a = 7$ a solution to this equation?

$$4(5a - 9) + 3 - 2a = 6(a + 13)$$

$$\begin{aligned} 4(5(7) - 9) + 3 - 2(7) &= 6(7 + 13) \\ 4(26) + 3 - 14 &= 120 \\ 104 + 3 - 14 &= 120 \\ 93 &= 120 \end{aligned}$$

Is $x = 4$ a solution to the following equation?

$$\sqrt{16x} - 5 = x - 1$$

$$\begin{aligned} \sqrt{16 \cdot 4} - 5 &= 4 - 1 \\ 8 - 5 &= 4 - 1 \\ 3 &= 3 \checkmark \end{aligned}$$

Solutions to an equation are numbers that make the equation TRUE when substituted back into the equation.

Property

Addition Property of Equality

For every real number a , b , and c , if $a = b$, then $a + c = b + c$.

Example $8 = 5 + 3$, so $8 + 4 = 5 + 3 + 4$.

Property

Subtraction Property of Equality

For every real number a , b , and c , if $a = b$, then $a - c = b - c$.

Example $8 = 5 + 3$, so $8 - 2 = 5 + 3 - 2$.

Property

Multiplication Property of Equality

For every real number a , b , and c , if $a = b$, then $a \cdot c = b \cdot c$.

Example $\frac{6}{2} = 3$, so $\frac{6}{2} \cdot 2 = 3 \cdot 2$.

Property

Division Property of Equality

For every real number a , b , and c , with $c \neq 0$, if $a = b$, then $\frac{a}{c} = \frac{b}{c}$.

Example $3 + 1 = 4$, so $\frac{3+1}{2} = \frac{4}{2}$.

1. $-7.3 + Q = 29.4$ $Q = 36.7$
 $+7.3 \quad | \quad +7.3$

2. $-79 = H + 42$ $H = -121$
 $-42 \quad | \quad -42$

$$3. \quad \begin{array}{r} C - 401 = -674 \\ +401 \quad | \quad +401 \\ \hline \end{array} \quad C = -273$$

$$4. \quad \begin{array}{r} 144 = -105 \\ 14 \quad | \quad 14 \\ \hline \end{array} \quad A = -7.5$$

$$5. \quad \begin{array}{r} -1.5G = -7.2 \\ -1.5 \quad | \quad -1.5 \\ \hline \end{array} \quad G = 4.8$$

$$6. \quad \begin{array}{r} -M = 4.3 \\ -1 \quad | \quad -1 \\ \hline \end{array} \quad M = -4.3$$

$$7. \quad \begin{array}{r} \frac{K}{4} = 12.4 \\ K = 48 \end{array} \quad K = 48$$

$$8. \quad \frac{3}{7}X = \frac{6}{1} \cdot \frac{7}{3} = \frac{42}{3} = 14$$

$$\begin{array}{r} 7 \cdot \frac{3X}{7} = 42 \\ 3X = 42 \\ X = 14 \end{array}$$

$$9. \quad \begin{array}{r} -\frac{1}{5}R = 35 \cdot -5 \\ -5 \end{array} \quad R = -175$$

IXLs assigned - A.2 & I.3 due Sept. 13th.