

Warm-up 9-5

Solve the following equations and inequalities.

1. $-20 > -4x - 6x$

2. $p - 4 \leq -9 - 2p$

3. $12 = 4(-6x - 3)$

4. $3n - 5 = -8(6 + 5n)$

Warm-up 9-5

Solve the following equations and inequalities.

1. $-20 > -4x - 6x$

$$\frac{-20}{-10} > \frac{-10x}{-10}$$

$$2 < x$$

$$x > 2$$

2. $1p - 4 \leq -9 - 2p$

$$\frac{+2p}{+2p}$$

$$\frac{3p - 4 \leq -9}{+4 \quad +4}$$

$$\frac{3p \leq -5}{3}$$

$$p \leq -\frac{5}{3}$$

3. $12 = 4(-6x - 3)$

$$\frac{12 = -24x - 12}{+12 \quad +12}$$

$$\frac{24 = -24x}{-24 \quad -24}$$

$$x = -1$$

$$-1 = x$$

4. $3n - 5 = -8(6 + 5n)$

$$\frac{3n - 5 = -48 - 40n}{+40n \quad +40n}$$

$$\frac{43n - 5 = -48}{+5 \quad +5}$$

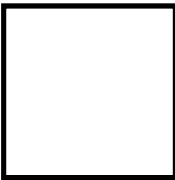
$$\frac{43n = -43}{43 \quad 43}$$

$$n = -1$$

Section 2.4:

Today's Goal

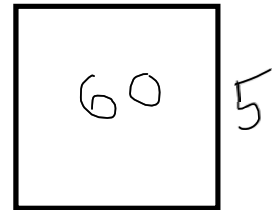
To be able to solve for a specific variable in a Literal Equation.

$$\frac{A}{\cancel{w}} = \frac{\cancel{w}l}{\cancel{w}}$$


$$\frac{A}{w} = l$$

$$\frac{60}{5} = 12 = l$$

$$\frac{60}{5} = \frac{\cancel{5}l}{\cancel{5}}$$
$$12 = l$$



Section 2.4: Using Formulas and Solving Literal Equations

$$A = lw$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$V = lwh$$

$$\frac{|+ - e|}{+} \times 100$$

Literal Equations

- equations with actual meanings
- each variable stands for a specific Value
- Solving the literal equations means solving for one of the variables
- end up with an equation

$$L + W = Y \text{ Solve for } W$$

$$\begin{array}{r} L + W = Y \\ -L \quad -L \\ \hline W = Y - L \end{array}$$

$$\frac{tu}{t} = \frac{2m + y}{t} \text{ solve for } u.$$

$$u = \frac{2m + y}{t} \quad \frac{2m}{t} + \frac{y}{t}$$

$$1. \frac{xy}{m} = km \text{ solve for } y$$

$$\frac{xy}{x} = \frac{km}{x} \quad y = \frac{km}{x}$$

$$2. 2B + 2H = P \text{ solve for } H$$

$$\begin{array}{r} 2B + 2H = P \\ -2B \quad -2B \\ \hline 2H = P - 2B \end{array}$$

$$\frac{2H}{2} = \frac{P - 2B}{2}$$

$$H = \frac{P - 2B}{2}$$

3. $2m + 3 = n$ Solve for m

4. $\frac{6g}{f} = h$ solve for g

5. $\frac{z}{w} - y = z$ solve for w

6. $r + \frac{s}{t} = u$ solve for t.

3. $2m + 3 = n$ Solve for m

$$\frac{2m + 3}{-3} = \frac{n}{-3}$$

$$2m = n - 3$$

$$m = \frac{n-3}{2}$$

4. $6g = fh$ solve for g

$$\frac{6g}{6} = \frac{fh}{6}$$

$$g = \frac{fh}{6}$$

5. $\frac{2}{w} - y = z$ solve for w

$$\frac{2}{w} = z + y$$

$$\frac{1}{w} = \frac{z+y}{2}$$

$$w = \frac{2}{z+y}$$

6. $r + s = u$ solve for t.

$$\frac{r + s}{-r} = \frac{u}{-r}$$

$$\frac{s}{-r} = (u-r) \frac{1}{-r}$$

$$s = (u-r) \frac{-r}{-r}$$

$$t = \frac{s}{u-r}$$

Solve

1. $d = rt$ for t

2. $p = 144/y$ for y

3. $r = Cs/d$ for C

4. $V = lwh$ for w

Solve

1. $d = rt$ for t

$$t = \frac{d}{r}$$

2. $p = 144/y$ for y

~~$$p \cdot y = \frac{144}{p}$$~~

$$y = \frac{144}{p}$$

3. $r = Cs/d$ for C

~~$$\frac{d}{s}(r) = \frac{Cs}{d}(\frac{d}{s})$$~~

$$C = \frac{dr}{s}$$

4. $V = lwh$ for w

$$\frac{V}{lh} = \frac{lwh}{lh}$$

$$w = \frac{V}{lh}$$

$$V = \frac{s}{d}$$

1. If $s=10$ and $d=5$ what $V=?$

2. If $d=8$ and $V=7$ what $s=?$

$$F = ma$$

3. $F= 5$ and $m=10$ what $a=?$

4. $a=240$ and $m=60$ what $F=?$

$$V = \frac{s}{d}$$

1. If $s=10$ and $d=5$ what $V=?$

$$V = \frac{10}{5} = 2$$

2. If $d=8$ and $V=7$ what $s=?$

$$(d) V = \frac{s}{d} \quad (d)$$

$$s = vd$$

$$s = 8(7) = 56$$

$$F = ma$$

3. $F=5$ and $m=10$ what $a=?$

$$\frac{F}{a} = \frac{m \cancel{a}}{\cancel{a}}$$

$$m = \frac{F}{a} \quad m = \frac{5}{10} = \frac{1}{2}$$

4. $a=240$ and $m=60$ what $F=?$

$$F = ma$$

$$F = 240(60) = 14,400$$

Homework

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