equation is an equation that involves two

Rewriting a Literal Equation:

Rewrite the equation by solving for the given variable:

A. 
$$-2x + 5y = 12$$
 Solve for y.

Add 2x to each side to "move" the x-term

$$\frac{5y = 1a + 2x}{5}$$

Simplify

$$y = \frac{12 + 2x}{5}$$

$$y = \frac{12}{5} + \frac{2}{5}x$$

**Simplify** 

Divide by 5

B. 
$$a - 2b = -10$$

Solve for b.

Subtract a from each side.

$$-2b = -10-a$$

Simplify

Divide by -2

**Simplify** 

Factor each of the following expressions:

C. 
$$-3x - 9 = -3(x + 3)$$

D. 
$$2xy + 6y = 2y (x + 3)$$

E. 
$$9x - 18 = 9(x - 2)$$

F. 
$$ax - bx = X(\underline{a} - \underline{b})$$

Rewriting a Literal Equation with only (mostly) Variables

G. 
$$mx + 2nx = p$$
 Solve for x.

$$x(m+2n)=p$$
 $m+2n$ 
 $m+2n$ 

Use the distributive property to factor out the x

Divide both sides by m+2n

Simplify

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## Lesson 2-5 Literal Equations and Formulas TRY THESE ON YOUR DWN:

Solve the equation $4 = 2m -$	En for m
	Write the original equation.
	\$1 II-
	Add 5n to each side
	Simplify
	, ex e , a
Use the new equation to find	i the values of m when n = -2, 0, and 2
Solve $-t = r + px$ for x.	
Solve $-t = r + px$ for x.	Write the original equation.
Solve -t = r + px for x.	Write the original equation.  Use the symmetric property (switch sides
Solve –t = r + px for x.	Use the symmetric property (switch sides
Solve –t = r + px for x.	Use the symmetric property (switch sides  Subtract
Solve –t = r + px for x.	Use the symmetric property (switch sides
Solve –t = r + px for x.	Use the symmetric property (switch sides  Subtract
Solve –t = r + px for x.	Use the symmetric property (switch sides  Subtract
	Use the symmetric property (switch sides  Subtract  Simplify
	Use the symmetric property (switch sides  Subtract  Simplify  N, find the value of y when x = -1, and x = 3
y + 2x = 5. Solve for y. THE	Use the symmetric property (switch sides  Subtract  Simplify  N, find the value of y when x = -1, and x = 3  x = -1:
	Use the symmetric property (switch sides  Subtract  Simplify  N, find the value of y when x = -1, and x = 3  x = -1:
y + 2x = 5. Solve for y. THE	Use the symmetric property (switch sides  Subtract  Simplify  N, find the value of y when x = -1, and x = 3  x = -1:

**Rewriting Formulas:** 

A formula is an equation that states a relationship quantities. Formulas are special types of \_\_literal

Formula Name	Formula	Definitions of Variables			
Perimeter of a rectangle	P = 2l + 2w	P = perimeter, l = length, w = width			
Circumference of a circle	$C = 2\pi r$	C = circumference, r = radius			
Area of a rectangle	A = lw	A = area, l = length, w = width			
Area of a triangle	$A = \frac{1}{2}bh$	A = area, b = base, h = height			
Area of a circle	$A = \pi r^2$	A = area, r = radius			
Distance traveled	d = rt	D = distance, r = rate, t = time			
Temperature	$C = \frac{5}{9}(F - 32)$				

H. Rewrite  $C = \frac{5}{9} (F - 32)$  solving for F.

Use the symmetric property

Multiply by the reciprocal of  $\frac{5}{9}$ 

$$F-32 = \frac{9}{5}C$$

Simplify

Add 32 to each side.

Simplify

Josh is planting a rectangular garden. The perimeter of the garden is 120 yd., and the width is 20 yd. What is the length of the garden?

Solve the formula for length:

Substitute the value of P and w:

Lesson 2-5 Literal Equations and Formulas

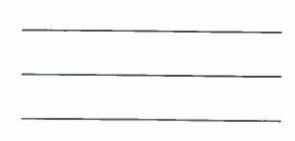
## Lesson 2-5 Literal Equations and Formulas TRY THESE ON YOUR DWN...

Practice:

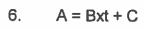
Solve each equation for x:

$$\frac{rx + sx}{t} = 1$$

$$S = C + xC$$



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$$7. \qquad \frac{x+2}{y-1} = 2$$

