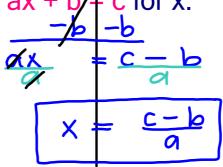
## 2.8 Rewrite Equations & Formulas

The equation ax + b = c is called a literal equation because the coefficients & constants have been replaced by letters.

When you solve a literal equation, you can use the result to solve any equation that has the same form.

1. a) Solve  $ax + b \neq c$  for x.



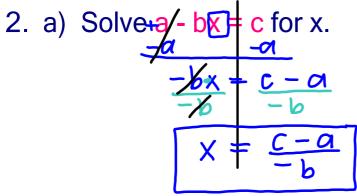
b) Use the solution to solve 2x + 5 = 11.

$$X = \frac{11 - 5}{0}$$

$$X = \frac{11 - 5}{2}$$

$$X = \frac{6}{2}$$

$$X = 3$$



b) Use the solution to solve 12 - 5

$$X = \frac{C - \alpha}{-b}$$

$$X = \frac{-3 - 12}{-5}$$

$$X = \frac{-15}{-5}$$

$$X = 3$$

3. a) Solve 
$$\frac{x}{b} + c = a$$
 for x.  
 $x = b(a-c) + c = a$ 

b) Use the solution to solve  $\frac{2}{4} + 7 = 2$ .

$$x = b(a - c)$$
  
 $x = 4(2 - 7)$   
 $x = 4(-5)$ 

An equation in two variables...

$$-5a + 3b = -35$$
  
 $4x + 3y = 12$   
 $-7m - 3n = 8$ 

or a formula in two or more variables...

A = 
$$\frac{1}{2}$$
bh

Area of

 $C = \frac{5}{9} (F - 32)$ 
 $distance = rate \times time$ 
 $d = rt$ 

can be rewritten so that one variable is a function of the other variable(s).

4. Write 3x + 2y = 8 so that y is a function of x.

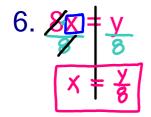
In other words...SOLVE FOR Y.

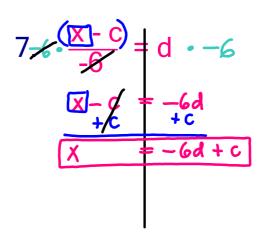
$$+3x + 4y = 8$$
  
 $-3x$   
 $2x = 8 - 3x$   
 $y = 4 - \frac{3}{2}x$ 

5. Write -2x + 3y = 6 so that y is a function of x.

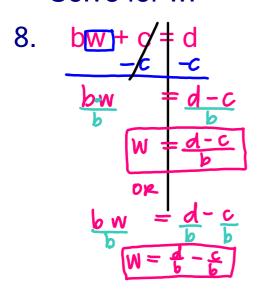
$$\frac{3y}{3} = \frac{6}{3} + \frac{2x}{3}$$
 $y = 2 + \frac{2}{3}x$ 

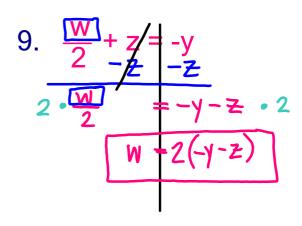
## Solve for x.



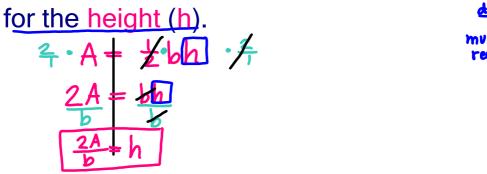


## Solve for w.





10.a) Solve the formula of the area of a triangle



b) Use the rewritten formula to find the height of a triangle with a base of 12 m and an area of 48 m<sup>2</sup>. A=40

$$\frac{2\cdot 48}{12} = h$$

$$8m = h$$

11.a) Solve the formula of the area of a rectangle for the length (I).

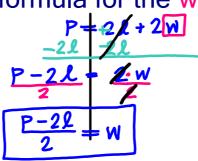
b) Use the rewritten formula to find the length of a rectangle with a width of 13 cm and an area of 351 cm<sup>2</sup>. A=351

$$\frac{351}{13} = \mathcal{L}$$

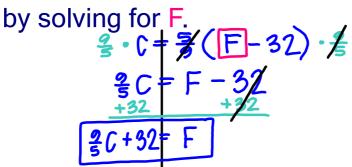
$$27 \text{ cm} = \mathcal{L}$$

12.a) What is the formula for the perimeter of a

b) Solve the formula for the width (w).



13.a) Rewrite the formula for temperature



b) Find the temperature for Saturday in degrees Fahrenheit if it's 14 C°. 14=C

$$\frac{2}{5} \cdot |4 + 32 = F$$
 $57.2^{\circ} F$