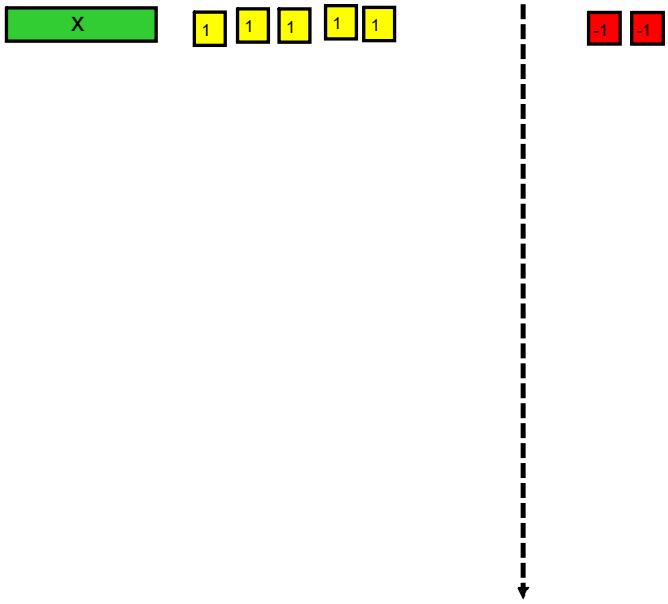
Solving Linear Equations

Learning Goal:

By the end of today, I will be able to solve LINEAR Equations for "x" or "y" using opposite operations.

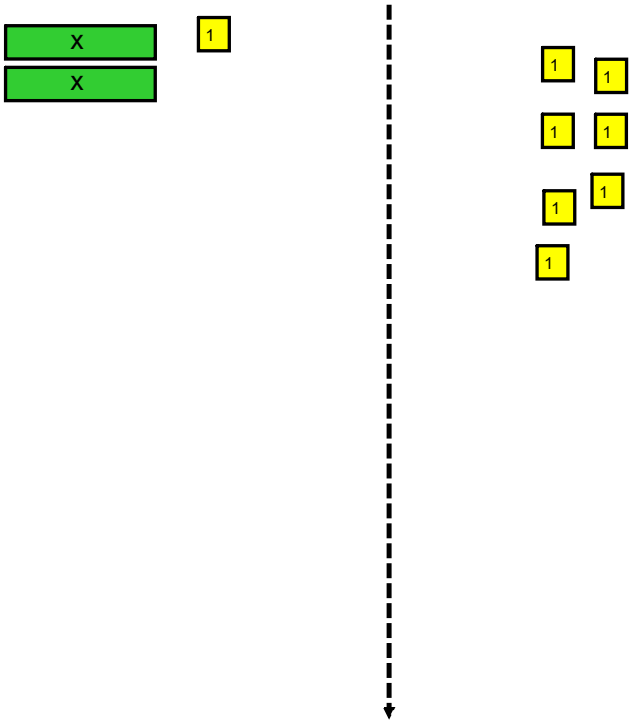
Solve the following:

$x + 5 = -2$



Solve the following:

$2x + 1 = 7$



Solving Equations

To cancel or eliminate an operation (add,subtract,divide,multiply) in an equation, we can use the opposite operation to undo it, therefore cancelling it out.

Example:

The opposite of adding is subtracting.

The opposite of multiplying is dividing.

The GOAL of "solving" an equation is to get the unknown or variable isolated (on the top with a "1" in front as a coefficient).

SAMDEB is guide we can follow, but it isn't a rule.

Solve the following:

$$\frac{x}{2} = 12$$

Solve the following:

$$\frac{x}{2} + 3 = 11$$

Solve the following:

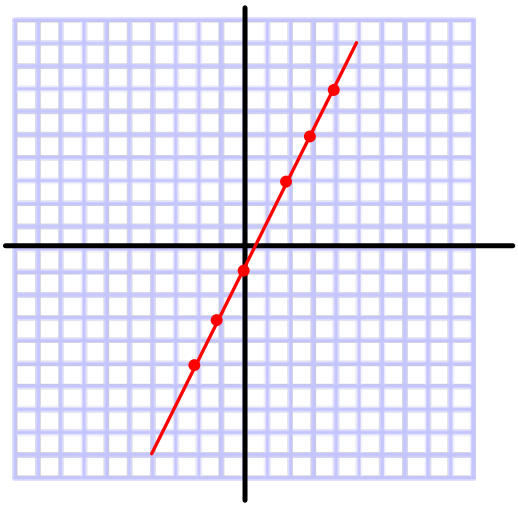
$$\frac{3x}{5} = 12$$

Solve the following:

$$\frac{3x}{2} + 4 = 16$$

Graph the following linear relation.

x	y
-2	-5
-1	-3
0	-1
1	1
2	3



State the y intercept and slope for the above relation.

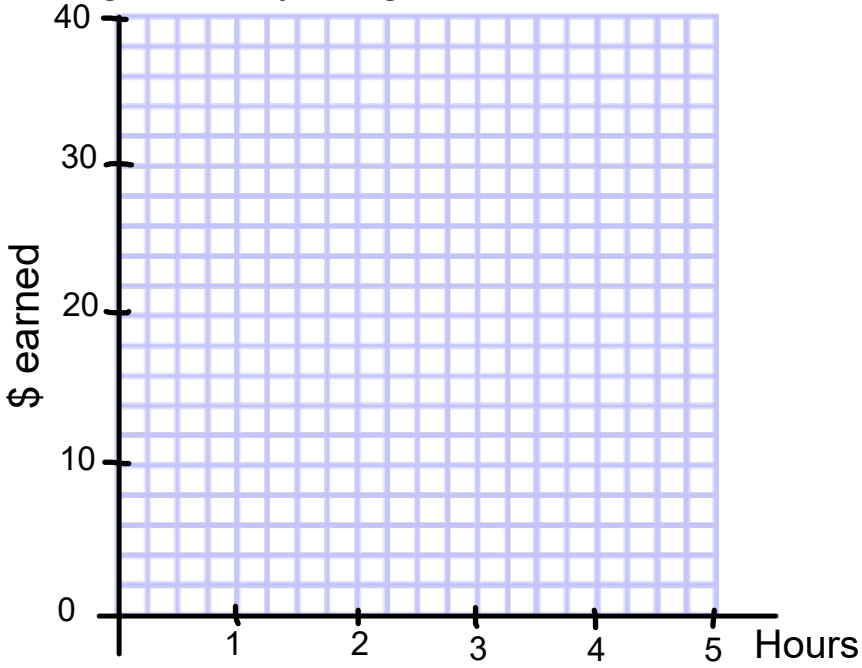
Determine the equation that represents this relation.

Using the equation, determine the Y value when x = 24

Determine the X intercept for this relation (when y=0) using your equation. Compare your answer to your graph.

Janice tracked her earnings for babysitting in the table below.

Hours	$ earned
1	13
2	18
3	23
4	28
5	33



Determine the equation that represents Janice's earnings.

Janice has been asked to work a whole weekend, which would be 16.5 hours of babysitting. How much would she make?

Janice wants to make an even $50 for in one night of babysitting. How many hours does she need to work?

Questions:

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3, 5(a,c,e), 10(a,c,e), 12(a,c,e)