PRINCIPLES - LESSON 6E
SOLVING FOR Y

Recall: **A literal equation is an equation that contains 2 or more variables.**

ex1) Solve for b. $2a - 3b = 6c$

Isolate b on one side of equation.

$-2a \qquad -2a$

$$\frac{-3b}{-3} = \frac{6c}{-3} - \frac{2a}{-3}$$

$$\boxed{b = -2c + \frac{2a}{3}}$$

SOLVING FOR Y

We will be solving all of the literal equations in this section for y. We will also be writing our answers in a very specific way. The reasons behind this will become clear in the next few lessons.

ex2) Solve for y. $4x + 3y = 15$

$-4x \qquad -4x$

$$\frac{3y}{3} = \frac{-4x}{3} + \frac{15}{3}$$

For these equations, write the x-term FIRST

Instead of writing $15-4x$, write $-4x+15$.

Be sure to keep the signs in the correct places.

The reason for this will become clear in a future lesson.

When x is in the numerator, move it to the side instead.

$$\frac{-4x}{3} = \frac{-4}{3}x$$

$$y = -\frac{4}{3}x + 5$$

SOLVING FOR Y

ex3) Solve for y. $1x - 2y = 6$

$-1x \qquad -1x$

$$\frac{-2y}{-2} = \frac{-1x}{-2} + \frac{6}{-2}$$

$$\boxed{y = \frac{1}{2}x - 3}$$

SOLVING FOR Y

ex4) Solve for y. $3x = 4y + 12$

$-12 \qquad -12$

$$\frac{3x}{4} - \frac{12}{4} = \frac{4y}{4}$$

$$\frac{3}{4}x - 3 = y \longrightarrow \boxed{y = \frac{3}{4}x - 3}$$

SOLVING FOR Y

ex5) Solve for y. $\frac{y}{2} - \frac{x}{3} = \frac{2}{3}$ $\cdot 6$ $\cdot 6$ $\cdot 6$

Clear fractions!

$$3y - 2x = 4$$
$$+2x \qquad +2x$$

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

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