

3.8 - Rewriting Formulas & Equations Notes
Algebra I

Name _____
Date _____ Block _____

A **literal equation** is an equation in which the _____ and _____
have been replaced by letters.

Solving a literal equation is simply solving a formula for a given variable.

So "solving literal equations" seems to be another way of saying
"taking an equation with lots of letters and solving it for one letter in particular."

We use the same steps we have used to solve equations.

Ex. 1

The formula for area of a rectangle is $A = \ell w$.

(What if the problem were: $4 = 2w$)

(A) Solve for w

(B) Solve for ℓ

Ex. 2

The formula for distance is $d = rt$.

(A) Solve for r

(B) Solve for t

Ex. 3

The formula for the area of a triangle is $A = \frac{1}{2}bh$.

(A) Solve for b .

(B) Solve for h .

Ex. 4

The formula for the perimeter of a rectangle is $P = 2\ell + 2w$. (What if it were: $3 = 2 + 2w$)
Solve for w .

Ex. 5

The formula for the volume of a rectangular prism is $V = \ell wh$.

(A) Solve for ℓ

(B) Solve for w

(C) Solve for h

Ex. 6

The formula for the area of a trapezoid is $A = \frac{1}{2}(b_1 + b_2)h$.

(A) Solve for h .

(B) Solve for b_1

3.8 - Solving for Y Notes

As we move ahead in Algebra I, we will see equations that contain two variables, like:

$$x + y = 8 \quad 5x + 4y = 20$$

In order to work with these types of equations, we need to be able to rewrite them in various forms (so we can graph, etc.).

We want to rewrite those equations so they are in "y =" form (we call this **function form**.)

We also call this "**solving for y**."

Ex. 1

Solve for y: $y + 9 = x$

Since we want to get "y" by itself, _____ FBS.

Remember - you can only combine LIKE terms

Your Turn

1. $y + 8 = 2x$	2. $y - 7 = x$	3. $9 + y = 5x$
4. $-6 + y = 4x$	5. $y + 8 = 2x$	6. $y - 9 = 7x$

Ex. 2

Solve for y: $y + 3x = 5$

We want to get y by itself, so _____ FBS

***NOTE:** write the x-term first! This will be important when graphing.**Your Turn**

$y + 3x = 9$	$y - 4x = 2$	$y + x = 8$
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Ex. 3

Solve for y: $2x - y = 8$

we want y by itself, so _____ FBS

we want POSITIVE y, so _____
(remember to divide every term by -1!)**Your Turn**

$7x - y = 8$	$x - y = -9$	$9 - y = 2x$
$8 - y = 6x$	$-5x - y = -7$	$-y + 7x = 3$

Ex. 4

Solve for y: $2x + 4y = 7$

Get the "y" term by itself by _____

Now divide EVERY term by _____

Then simplify

Your Turn

1. $x + 3y = 9$	2. $8x - 4y = 12$	3. $-6y - 8 = 3x$
4. $5 + 6y = 18x$	5. $2y + 6x = 10$	6. $-4 + 6y = 9x$