LITERAL EQUATIONS

Name Key
Date _____ Period ____

Day 7

Target: Rewrite equations and formulas.

Let's start with what you already know!!

Solve for x: $x - 10 = 5$ (+10 +10) $x = 15$

You were able to add 10 and 5 because they are LIKE TERMS.

What if they aren't? Solve for x in the following: ← isolate x = get x by itself

$x - y = 5$ (+y +y)

$x = 5 + y$ ← can't combine

For each of the following, solve for y.

A. $7 + y = 8$

$y = 1$

B. $6 = 3y - 4$ (+4 +4)

$10 = 3y$ (÷3 ÷3)

$\frac{10}{3} = y$

C. $-10 - 2y = 6$ (+10 +10)

$-2y = 16$ (÷-2 ÷-2)

$y = -8$

Write the equation so that y is a function of x *(This means solve for y!)*

↑ isolate y

D. $2x + y = 8$ (−2x −2x)

$y = 8 - 2x$

OR

$y = -2x + 8$

E. $x = 3y - 4$ (+4 +4)

$1x + 4 = 3y$ (÷3 ÷3)

$\frac{1}{3}x + \frac{4}{3} = y$

F. $-x - 3y = 18$

$-3y = 18 + 1x$ (÷-3 ÷-3 ÷-3)

$y = -6 - \frac{1}{3}x$

OR

$y = -\frac{1}{3}x - 6$

Write the equation so that x is a function of y *(This means solve for x!)*

G. $2x + y = 8$

$2x = 8 - y$ (÷2 ÷2 ÷2)

$x = 4 - \frac{1}{2}y$

H. $2x + y = -4$

$2x = -4 - y$ (÷2 ÷2 ÷2)

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

I. $-x - 3y = 18$

$-x = 18 + 3y$ (÷-1 ÷-1 ÷-1)

$x = -18 - 3y$

Literal Equations as formulas:

1) Solve for C: $P = R - C$

$-R \quad -R$

$P - R = -C$

$-1 \quad -1 \quad -1$

$-P + R = C$

2) Solve for m: $F = ma$

$\frac{F}{a} = \frac{ma}{a}$

$\frac{F}{a} = m$

3) Solve for r: $I = Prt$

$\frac{I}{Pt} = \frac{Prt}{Pt}$

$\frac{I}{Pt} = r$

4) Solve for x: $ax - by = c$

$+by \quad +by$

$\frac{ax}{a} = \frac{c}{a} + \frac{by}{a}$

$x = \frac{c}{a} + \frac{by}{a}$

5) Solve for x: $4x - \frac{1}{5}y = 16$

$\frac{4x}{4} = \frac{16}{4} + \frac{\frac{1}{5}y}{4}$

$x = 4 + \frac{1}{20}y$

6) Solve for x: $3x - \frac{1}{4}y = -12$

$\frac{3x}{3} = \frac{-12}{3} + \frac{\frac{1}{4}y}{3}$

$x = -4 + \frac{1}{12}y$

7) $4 \cdot S = \frac{GrK}{4} \cdot 4$; Solve for K.

$\frac{4S}{Gr} = \frac{GrK}{Gr}$

$\frac{4S}{Gr} = K$

8) $a \cdot R = \frac{8yz}{a} : a$ Solve for y.

$\frac{Ra}{8z} = \frac{8yz}{8z}$

$\frac{Ra}{8z} = y$