

BE-1A MONDAY 2-12-07

ON A NEAT, REASONABLY LARGE SET OF X-Y AXES (GRAPH PAPER WOULD BE NICE) CAREFULLY GRAPH THE FOLLOWING EQUATIONS. YOU CAN USE ONE BIG T-TABLE.

① $y = 3x + 5$

② $y = -2x - 3$

ALL ON THE
SAME
GRAPH

X	$y = 3x + 5$
-2	$-6 + 5 = -1$
-1	
0	
1	
2	

$y = -2x - 3$
$+4 - 3 = 1$

①

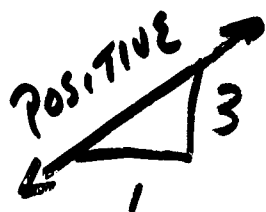
"THE SOLVE FOR Y" form OF
A LINEAR EQUATION IS THE SECOND
form OF A LINEAR EQUATION we will
study. (The first was the Standard
Form $\Rightarrow Ax + By = C$).

This form is called the
"Slope-Intercept" form
because you can SEE THE slope (m)
and the y-intercept (b).

↑
WHERE THE LINE CROSSES THE Y-AXIS

$$y = 3x + 5$$

↑
 $m = \frac{3}{1} = \frac{\text{rise}}{\text{run}}$



Y-intercept = b
is AT $(0, 5)$

(2)

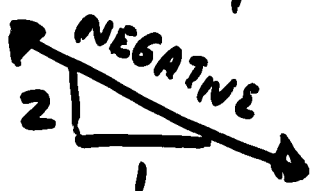
$$y = x + 1$$



$$m = \frac{1}{1} = \frac{\text{rise}}{\text{run}}$$

Y-intercept = b
is $(0, 1)$

$$y = -2x - 3$$



$$m = -\frac{2}{1} = \frac{\text{rise}}{\text{run}}$$

Y-intercept = b
is $(0, -3)$

$$y = mx + b$$

SLOPE-INTERCEPT FORM OF
A LINEAR EQUATION

$m = \text{SLOPE}$, $\oplus \nearrow$ or $\ominus \searrow$

$b = \text{Y-INTERCEPT}$. NOTE: if $b = 0$
line passes through
ORIGIN ex) $y = 5x$

KEY $\Rightarrow$ IF YOU HAVE A LINEAR EQUATION AND YOU SOLVE IT FOR y (OR IF IT IS ALREADY SOLVED FOR y) THEN YOU AUTOMATICALLY KNOW THE LINE'S SLOPE AND WHERE IT CROSSES THE y -AXIS. THAT IS ALL YOU NEED TO KNOW TO GRAPH THE LINE.

EX) GRAPH $y = 3x - 4$
 $y = mx + b$

$\uparrow$
"begin AT b ,
WHERE IT CROSSES THE
 y AXIS

$\uparrow$
"move by the slope, the
MORE POINTS THE BETTER THE
LINE.

Ex) graph $y = -\frac{2}{3}x + 1$

Ex 3 Pg 273

Ch. 5-3 "SLOPE-INTERCEPT Form"

Ex) graph $5x - 3y = 6$

$$\frac{-3y}{-3} = \frac{-5x + 6}{-3}$$

$$y = \frac{5}{3}x - 2$$

$\begin{matrix} \nearrow \\ m \end{matrix}$
 $\begin{matrix} \nearrow \\ b \end{matrix}$

EX 4 Pg 273

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Homework: • Read Ch 5-3

• Pg 276 # 30 to 34