

BE-1A WEDNESDAY 1-17-07

DETERMINE IF THE EQUATION IS A LINEAR EQUATION. If it is, combine as many like terms as you can.

① $-3x + 2x + 5y - 3y = -4 + 8$

② $4x + 3y^3 = 26 - 6y + 2y$

③ $\frac{1}{2}x + \frac{5}{2}x + 12y = 0$

④ GRAPH $y = x + 2$ USING THE "PICK 5 VALUES FOR X AND MAKE A T-TABLE" METHOD.

⑤ DEFINE X-INTERCEPT AND Y-INTERCEPT.

(TAKE OUT HOMEWORK)

If you HAVE A LINEAR EQUATION, since it ONLY HAS x , y , AND NUMBERS SEPARATED by $+$ or $-$, you CAN ALWAYS COMBINE ALL THE x terms INTO ONE term, ALL the y terms INTO ONE term, AND all the numbers INTO ONE term.

If you DO THIS AND PUT THE x AND y terms on the left AND numbers on the right this is called:

THE STANDARD FORM OF A LINEAR EQUATION

$$\boxed{Ax + By = C}$$

From BE: $-3x + 2x + 5y - 3y = -4 + 8$

$$-x + 2y = 4$$

or $\boxed{x - 2y = -4}$

$$\begin{matrix} \downarrow & \downarrow & \downarrow \\ A=1 & B=-2 & C=-4 \end{matrix}$$

(2)

SOME RULES ABOUT THE STANDARD FORM:

⇒ A should be positive

⇒ A, B, C must be integers, NOT fractions or decimals, AND they must be in "lowest" form
 form →  FOLLOWS GRE

EXAMPLE

$$7x + 14y = 21$$

SHOULD BE $\boxed{x + 2y = 3}$ How?

EX) $\frac{1}{2}x + 3y = 9$

SHOULD BE $\boxed{x + 6y = 18}$ How?

WRITE IN STANDARD FORM:

EX) $3x = 5y$

EX) $6 - y = 2x$

EX) $\frac{x}{2} = 10 + \frac{2y}{3}$

③
Your turn, write in Standard Form:

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

AN ADVANTAGE OF THE Standard Form
IS THAT YOU CAN GRAPH LINEAR EQUATIONS
EASIER THAN THE "5 VALUES OF X, Y-Table"
METHOD USING THE "Intercepts" METHOD.

EX) GRAPH $3x + 2y = 9$

$X_{\text{INT}}, Y = 0$

$$3x + 2(0) = 9$$

$$\frac{3x}{3} = \frac{9}{3}$$

$$\boxed{x = 3}$$

X_{INT}

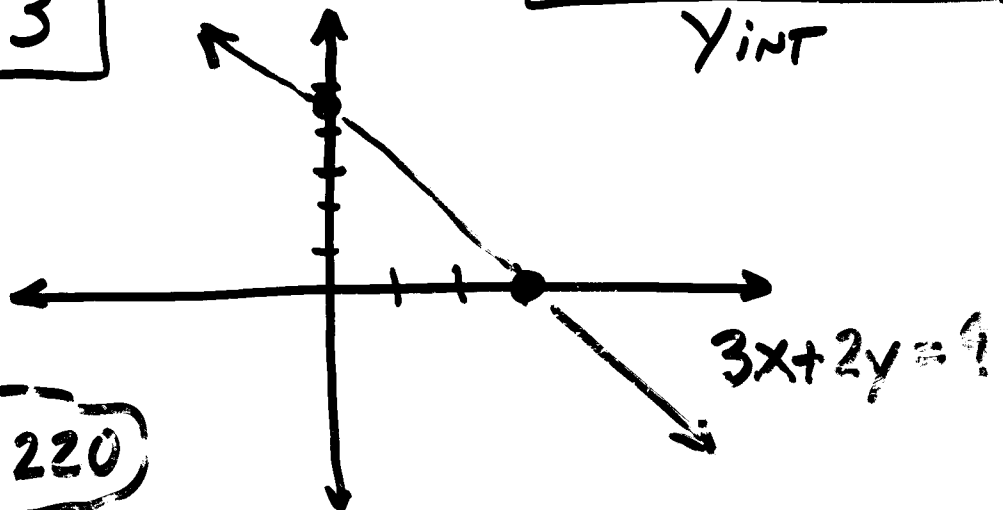
$Y_{\text{INT}}, X = 0$

$$3(0) + 2y = 9$$

$$2y = 9$$

$$\boxed{y = \frac{9}{2} = 4\frac{1}{2}}$$

Y_{INT}



EX: 4 Pg 220

④

EX.) Graph

$$2x + 4y = 8$$

HW: Pg. 221 # 12, 13, 16 to 19
