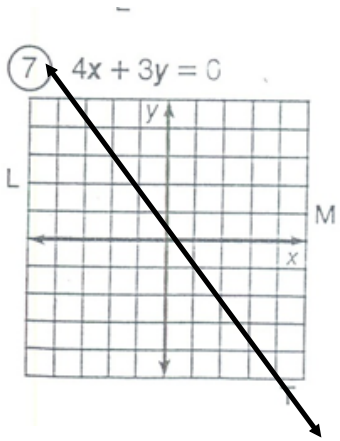
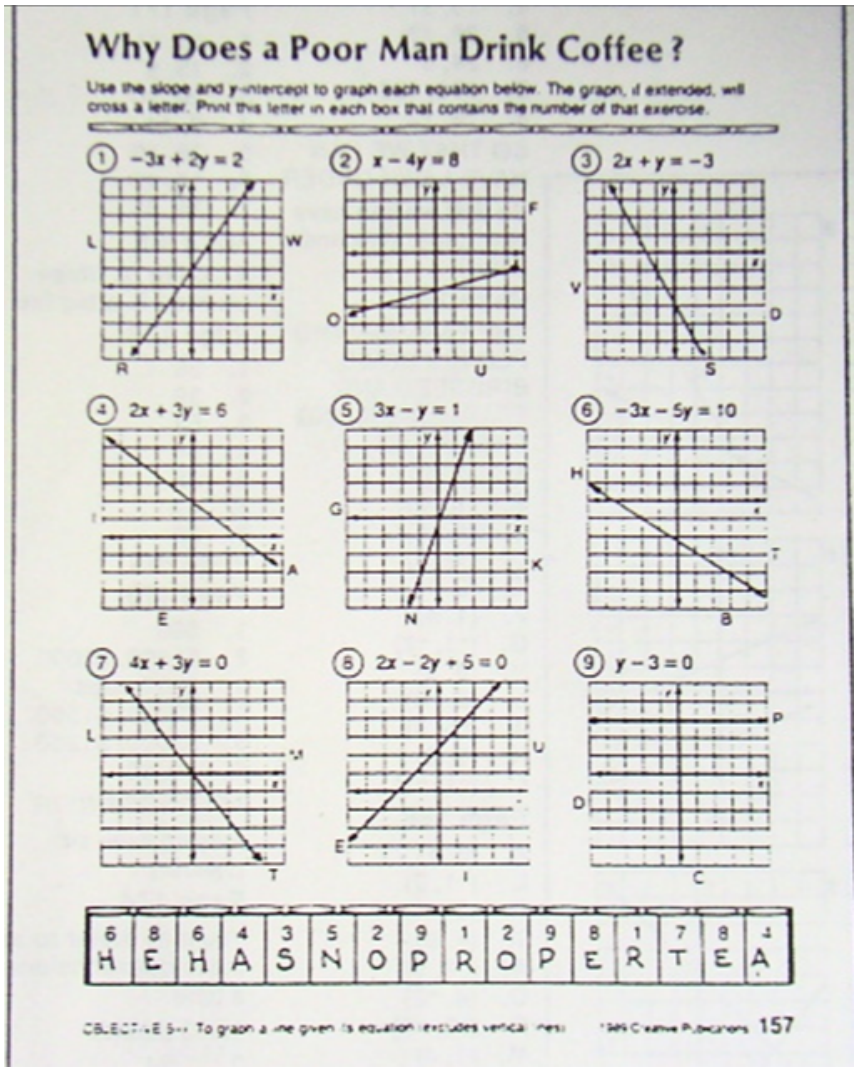
HOMEWORK QUESTIONS

Puzzle Worksheet - Graphing Lines.docx



SOLUTIONS/QUESTIONS FROM THE HOMEWORK???



Why Does a Poor Man Drink Coffee?

Use the slope and y-intercept to graph each equation below. The graph, if extended, will cross a letter. Print this letter in each box that contains the number of that exercise.

① $-3x + 2y = 2$ ② $x - 4y = 8$ ③ $2x + y = -3$

④ $2x + 3y = 6$ ⑤ $3x - y = 1$ ⑥ $-3x - 5y = 10$

⑦ $4x + 3y = 0$ ⑧ $2x - 2y + 5 = 0$ ⑨ $y - 3 = 0$

6	8	6	4	3	5	2	9	1	2	9	8	1	7	8	4
H	E	H	A	S	N	O	P	R	O	P	E	R	T	E	A

OBJECTIVE 5: To graph a line given its equation (excludes vertical lines) ©1985 Creative Publications 157

HE HAS NO PROPER TEA

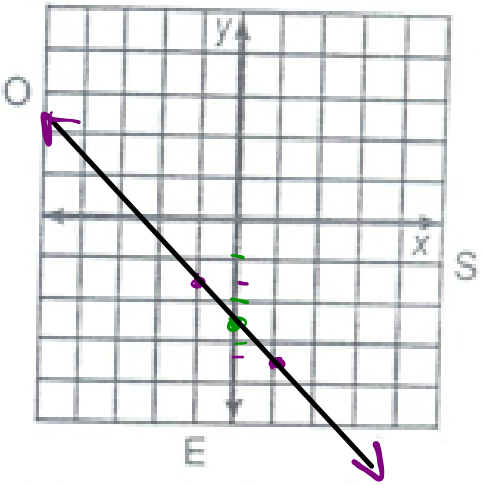
He has no proper tea (property).

Page 158

SHE HAD A BUM STEER

Questions...

9 $-2x = 2y + 5$



$-2x = 2y + 5$

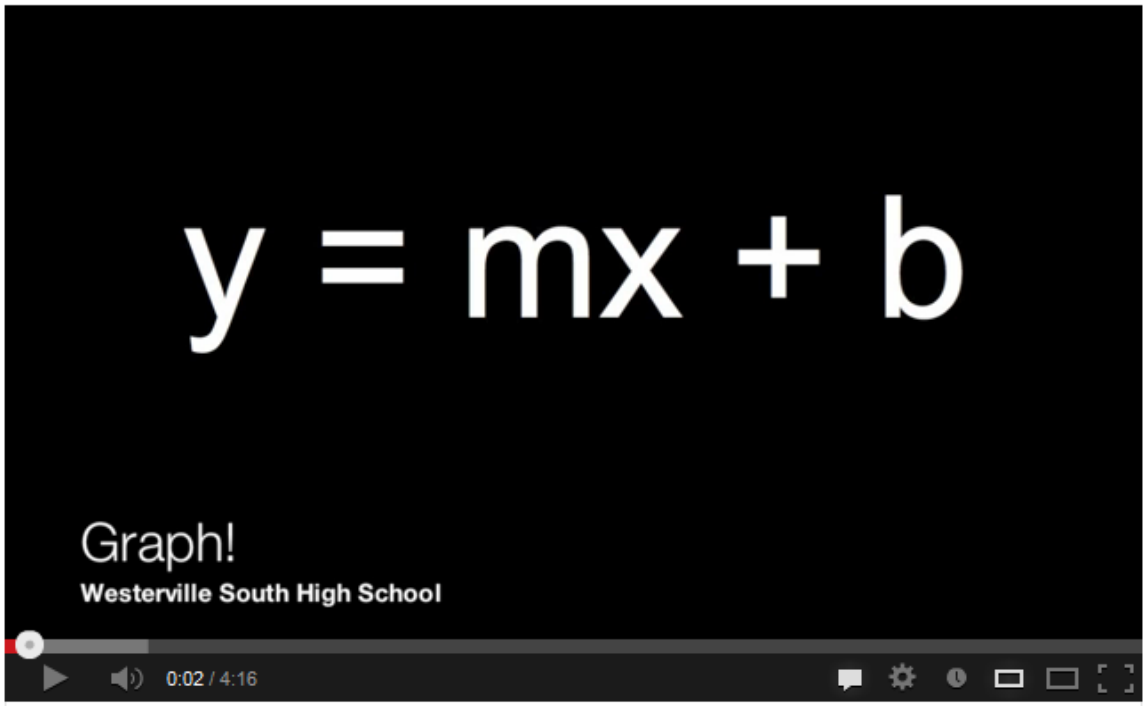
$\frac{-2y}{-2} = \frac{2x}{-2} + \frac{5}{-2}$

$y = -1x - 2.5$

y-int

Rise / Run

$\frac{-1}{1}$ vs $\frac{1}{-1}$



Graph! (WSHS Math Rap Song)

Graphing Linear Functions

NOTES - Graphing Linear Relationships.docx

Method #1 - Table of Values (must have at least 3 points)

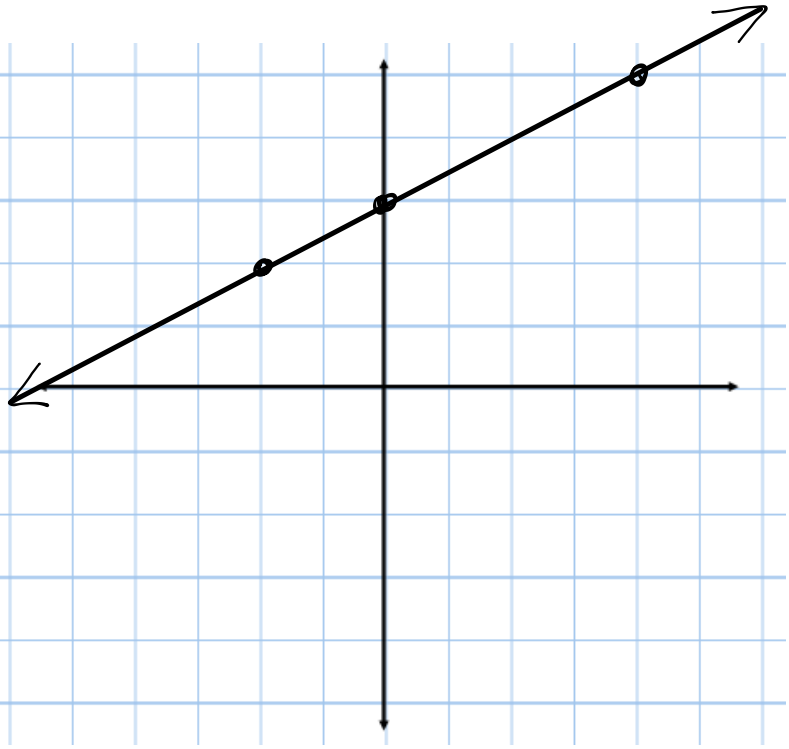
ex: $3x - 6y + 18 = 0$

$-6y = -3x - 18$

$\frac{-6y}{-6} = \frac{-3x}{-6} - \frac{18}{-6}$

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

x	y
0	3
4	5
−2	2



Method #3 - Using x / y intercepts

ex: $x - 5y - 10 = 0$

x-int

$x - 5(0) - 10 = 0$

$x - 10 = 0$

$x^{int} = 10$

(10, 0)

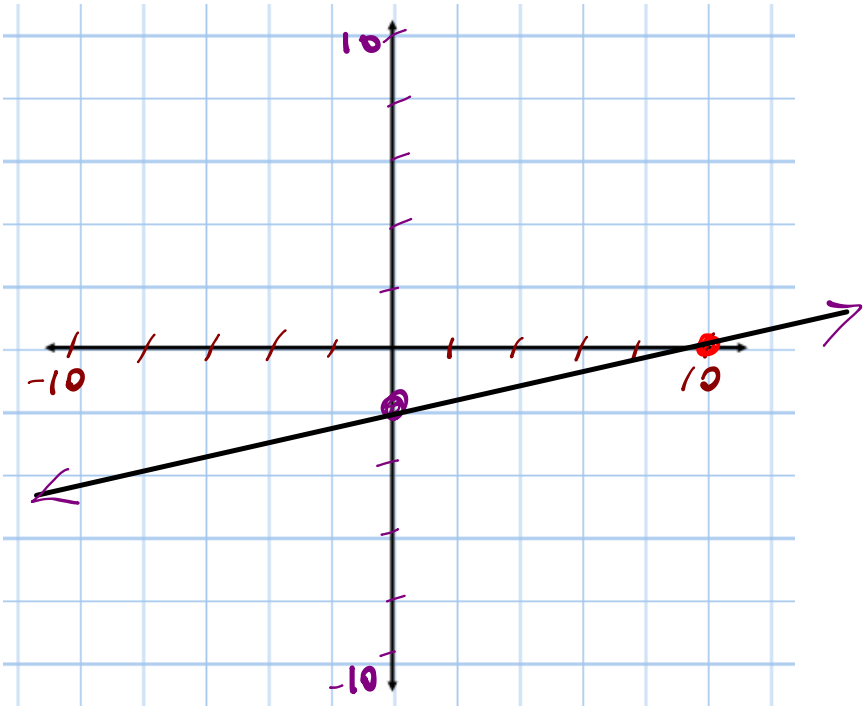
y-int

$0 - 5y - 10 = 0$

$\frac{-5y}{-5} = \frac{10}{-5}$

$y^{int} = -2$

(0, -2)



What about vertical versus horizontal lines???

Graphs of Special Lines

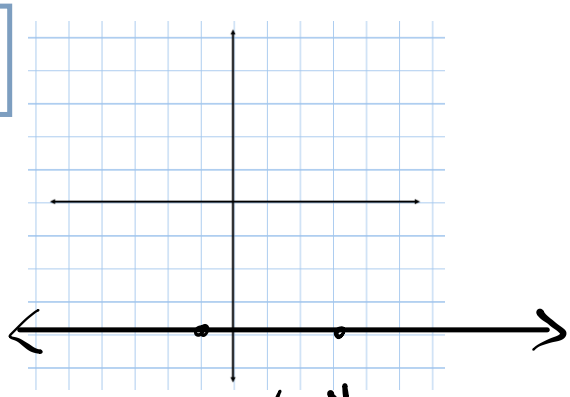
- horizontal lines - slope value of zero

ex: (3, -4) & (-1, -4)

$m = \frac{-4-(-4)}{-1-3}$

$= \frac{0}{-4}$

$= 0$

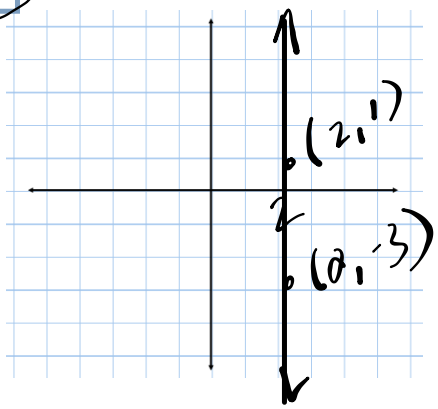


- vertical lines - slope value is **undefined** ↔ "ND"

ex: x = 2

$m = \frac{-3-1}{2-2}$

$= \frac{-4}{0}$



Why Can't We Divide By 0...

$0 \times \frac{11}{0} = \square \times 0$

$11 = \square \times 0$

? Undefined NOT POSSIBLE

Linear Inequalities:

???

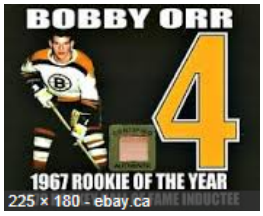
???

Inequality sign - could be one of the following...

$>$	$<$	$\geq$	$\leq$	$\neq$
GREATER THAN	~~LESS THAN~~	GREATER THAN OR EQUAL TO	~~LESS THAN OR EQUAL TO~~ LESS THAN OR EQUAL TO	NOT EQUAL TO

When solving an in-equation, all the steps are the same EXCEPT when it comes to isolating...

4 $<$ 11 , fill in the box.



VS

Now divide both by -1

-4 $>$ -11, fill in the box.

RULE: If you multiply or divide by a negative, reverse the inequality sign!!!

NOTES - Graphing a Linear Inequation.docx

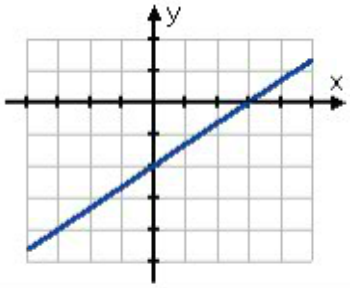
When the solution set to a linear inequality is continuous and the sign does not include equality, use a dashed line for the boundary and shade the solution region.

Example: Graph the solution to: $2x - 3y < 6$.

First, solve for the equation in the slope – y intercept form ($y = mx + b$).

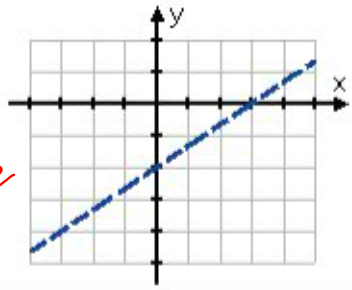
$2x - 3y < 6$
$-3y < -2x + 6$
$y > (2/3)x - 2$

STEP 1: Graph the boundary line



Find the "equals" part, which is the line $y = (2/3)x - 2$. It looks like this:

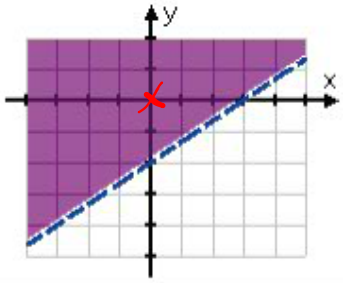
But this example is a **strict** inequality. That is, it's only "y greater than." We denote strict inequalities on the number line (such as $x > 5$) by using an open dot instead of a closed dot. In the case of these linear inequalities, the notation for a strict inequality is a dashed line. So the boundary line of the solution region actually looks like this:



STEP 2: Decide on dashed or solid ≤ OR ≥

< OR >

By using a dashed line, we can still identify the boundary line, but the dashed line indicates that the boundary line isn't included in the solution. Since this is a "y greater than" inequality, we will shade above the line, so the solution looks like this:



(0,0)

STEP 3: Pick a 'test point' and verify

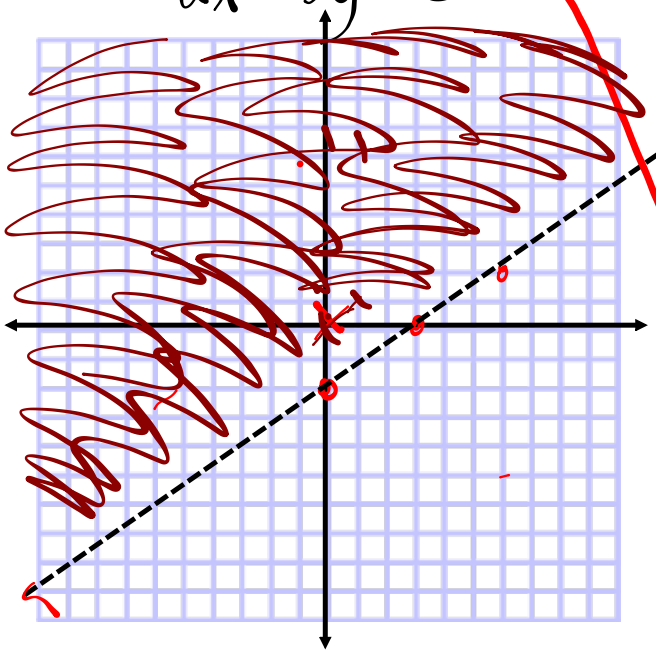
STEP 4: Shade

VIDEO - Graphing Inequalities

Click HERE to watch the video!!!

My Way

$2x - 3y < 6$



$2x - 3y = 6$

$\frac{-3y}{-3} = \frac{-2x}{-3} + \frac{6}{-3}$

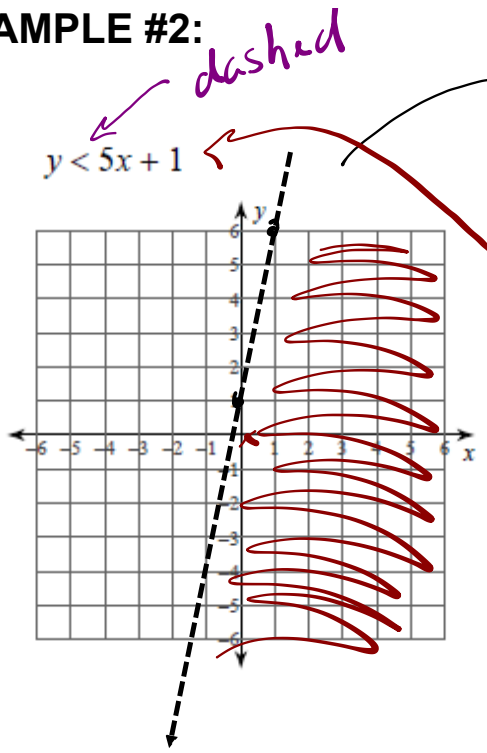
$y = \frac{2}{3}x - 2$

Test Point (0,0)
* sub into original

LS	RS
$2x - 3y$	6
$2(0) - 3(0)$	
0	yes

(0,0) is a solution

EXAMPLE #2:



$y = 5x + 1$

Test (0,0) $\quad 0 < 5(0) + 1$

$0 < 1$ yes

is a solution

HOMEWORK...

Puzzle Worksheet - Graphing Linear Inequalities with Two Variables.pdf

Attachments

Puzzle Worksheet - Graphing Lines.docx

NOTES - Graphing Linear Relationships.docx

NOTES - Graphing a Linear Inequation.docx

Puzzle Worksheet - Graphing Linear Inequalities with Two Variables.pdf