Please complete BW#16 (all three problems) and go over HW in groups.

BW

① $\frac{6,000,000}{3}$

$\frac{3}{6000000}$

$\frac{3}{5999999}$

$\frac{3}{6000001}$ D

similar: $\frac{3}{4}$ $\frac{3}{5}$ $\frac{3}{6}$

0.75 0.6 0.5

② $x^2 = 12 + 4x$

What are solutions? -2

Guess: $(-2)^2 = 12 + 4(-2)$

$4 = 12 + -8$

$-2? = \square$

$-12 \div -2 = 6$

~~$-4 \div -2 = 2$~~

$4 \div -2 = -2$

$12 \div -2 = -6$

~~$8 \div -2 = 4$~~

$x^2 = 12 + 4x$

$6^2 \stackrel{?}{=} 12 + 4 \cdot 6$

$36 = 12 + 24$ ✓

6 & -2 are solutions

$6 \cdot -2 = -12$ (A)

Algebraic: $x^2 = 12 + 4x$

$x^2 - 4x - 12 = 0$

Factor: $(x-6)(x+2) = 0$

$x - 6 = 0$ $\quad$ $x + 2 = 0$

$x = 6$ $\quad$ $x = -2$

(B)

B

$\sqrt{65}\ \sqrt{35} \approx \sqrt{36}$

$\approx \sqrt{64}$

$8 \quad 6$

48

(21) $4x - 5y - 10 \leq 0$

$4 \cdot 0 - 5 \cdot 0 - 10 \leq 0$

$-10 \leq 0$? yes.

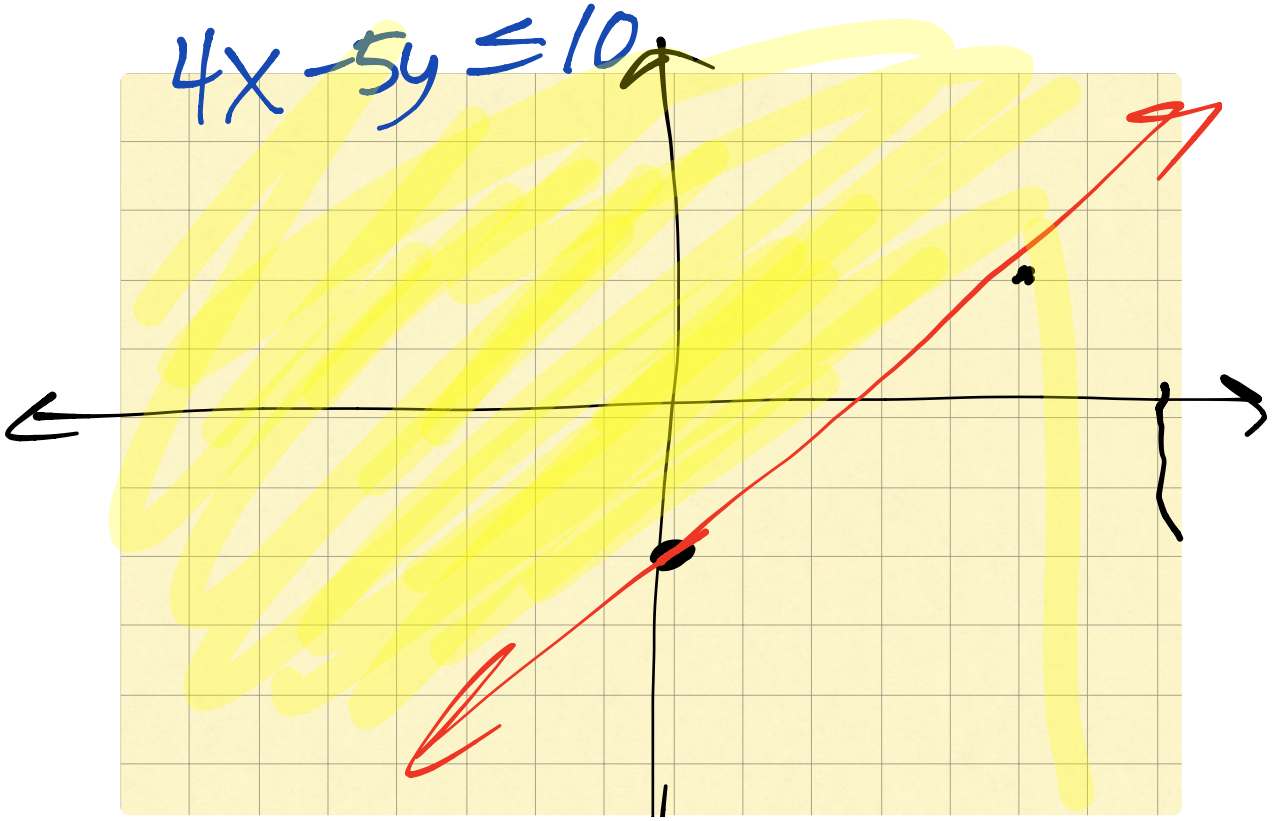
Slope-int:

$-4x \quad +10$

$-4x \quad +10$

$$\frac{-5y}{-5} \leq \frac{-4x + 10}{-5}$$

$$y \geq \frac{4}{5}x - 2$$



$y \geq \frac{4}{5}x - 2$

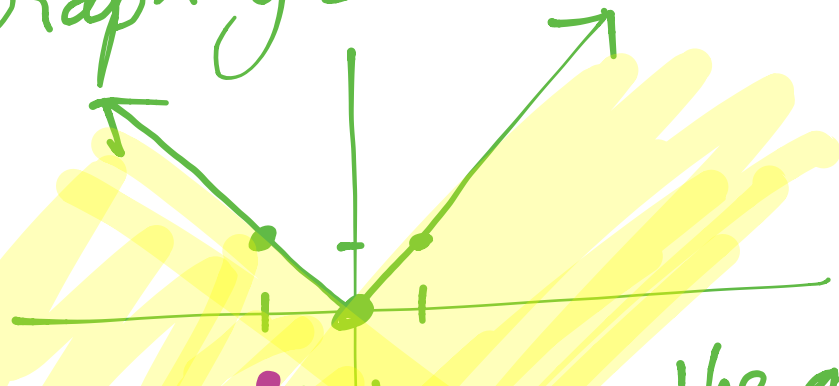
Test $(0,0)$

Is $0 \geq 0 - 2$?

$0 \geq -2$ yes!

(25) $y \leq |x|$

Graph $y = |x|$ first.



I can't use $(0,0)$ because the graph goes through $(0,0)$.

use $(-1,-1)$

$y \leq |x|$

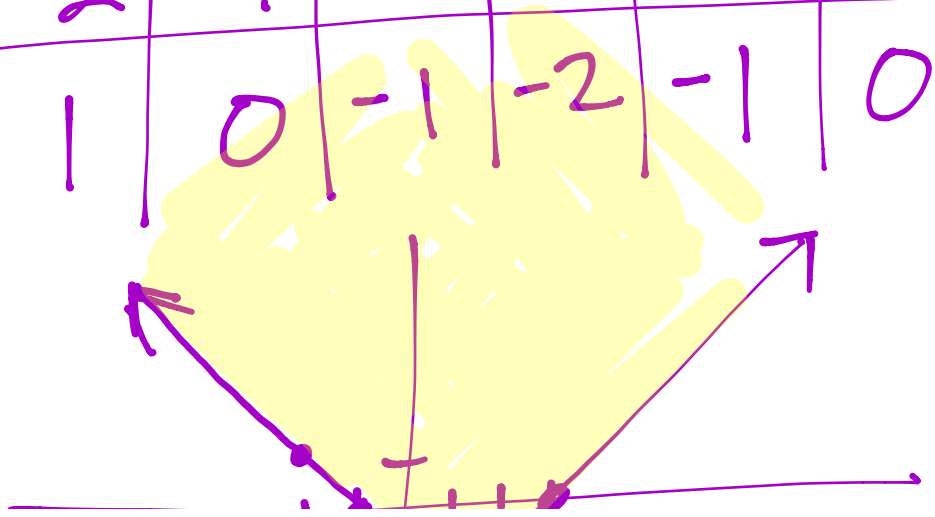
Is $-1 \leq |-1|$?

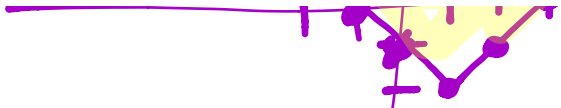
$-1 \leq 1$? Yes! Shade the area/region that contains $(-1,-1)$.

(28) $y \geq |x-1|-2$

GRAPH $y = |x-1|-2$ first.

x	-2	-1	0	1	2	3
y	1	0	-1	-2	-1	0





$y \geq |x-1|-2$

Test (0,0)

Is $0 \geq |0-1|-2$?

Is $0 \geq -1$? Yes!

open-note quiz

① Solve using algebra (not guess & check)

$$x^2 = 12 + 4x$$

② Graph & shade $y < |x-2|-1$