Quiz. Next class.

Linear Equations < $y = mx + b$; $y - y_1 = m(x - x_1)$

Domain Range

Linear Inequalities.

$m = \frac{y_2 - y_1}{x_2 - x_1}$

Slope $= \frac{\text{Rise}}{\text{Run}} = m = \frac{y_2 - y_1}{x_2 - x_1}$ $\quad y = mx + b$

① $y = 2x - 5$ $\quad m = 2$

② $y = -\frac{1}{3}x + 7$, $m = -\frac{1}{3}$

③ $3y - 4x = 12$ $\quad m = \frac{4}{3}$

④ $(-3, -6)$, $(12, 4)$ $\quad (x_1, y_1)$ (x_2, y_2) $\quad m = \frac{2}{3}$ $\quad m = \frac{y_2 - y_1}{x_2 - x_1}$

⑤ Vertical

$\frac{\text{Rise}}{\text{Run}}$

$= \frac{\text{Rise}}{0}$

m - undefined.

⑥ Horizontal $\quad m = 0$

$\frac{0}{\text{Run}} = 0$.

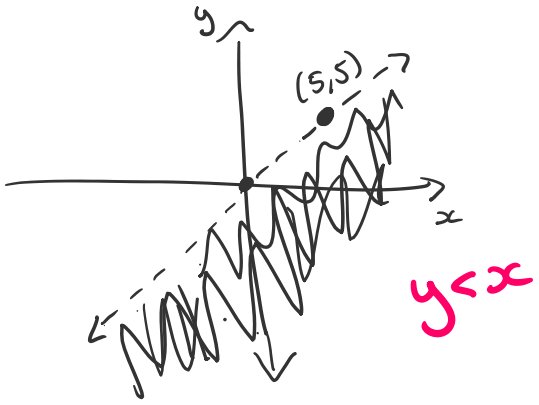
Sketch:

① $y = 3x - 2$ $\quad$ ② $y = -2x + 3$ $\quad$ check on Desmos

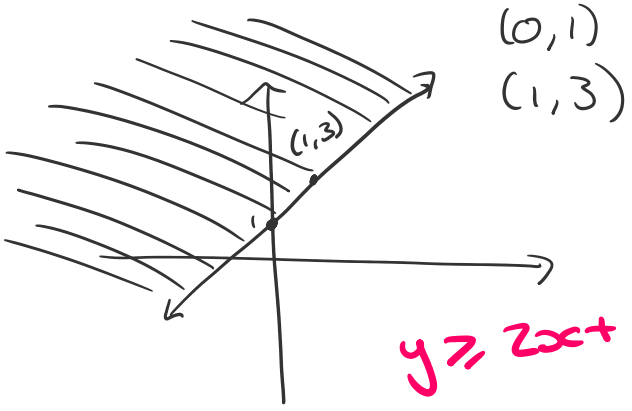
③ $4y = 2x - 8$ $\quad$ ④ $y = x$, $\{x : -1 \leq x \leq 1\}$

⑤ $y = 2x$ $\{y : -6 \leq y \leq 0\}$

⑥ $x = 7$ $0 \leq y \leq 2$



$y < x$



$y \geq 2x + 1$

Solve

① $3(x+2) = -(x-6)$

② $\frac{x+1}{3} = 5$

③ $\frac{2}{3}(x-7) = -\frac{1}{5}$

④ $3 - x < 6$