

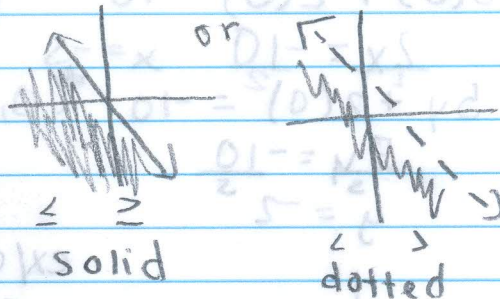
Ch 2 Lines & Their Graphs

I. vocab

if = , "equations"

if < or > or ≤ or ≥ , "inequalities"

equation looks like:
inequality looks like:



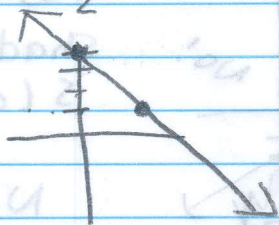
ex/ Graph $y = -\frac{3}{2}x + 4$

Slope-intercept: $y = mx + b$

(slope) $m = -\frac{3}{2}$

$b = +4$

pt $(0, 4)$



ex/ Graph

$y \leq -\frac{3}{2}x + 4$

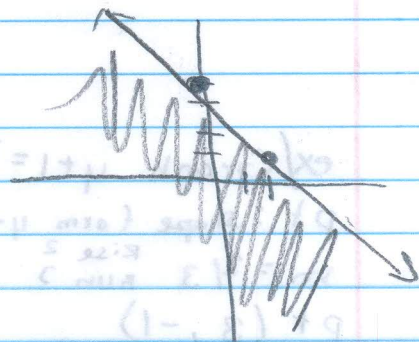
Same slope int!

Same line as last one!

inequality

Solid or dotted? Solid

≤



shading?

Test pts $(0, 0)$

$0 \leq -\frac{3}{2}(0) + 4$

$0 \leq 4$

yes! shade that

side

ex/graph $5y + 2x = -10$

Not in form! Use intercepts

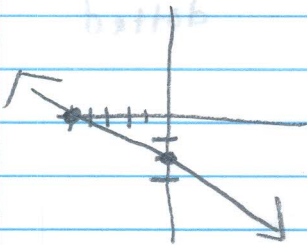
$x=0$ $y=0$

$5(0) + 2(0) = -10 \rightarrow (-5, 0)$

$2x = -10 \rightarrow x = -5$

$5y + 2(0) = -10 \rightarrow (0, -2)$

$\frac{5y}{5} = \frac{-10}{5}$
 $y = -2$



ex/Graph

$5y + 2x < -10$

Solid or dotted?

Dotted $\neq \cup^c$

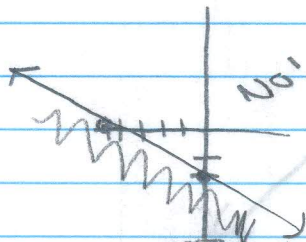
Test pt for

shading: $(0,0)$

$5(0) + 2(0) < -10$

$0 < -10$

No! shade away!



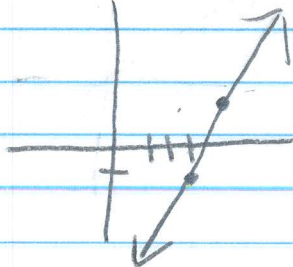
Not always under line!

ex/Graph $y + 1 = \frac{2}{3}(x - 3)$

pt: slope form $y - y_1 = m(x - x_1)$

$m = \frac{2}{3}$ Rise 2 Run 3

pt $(3, -1)$



ex/Graph $y + 1 > \frac{2}{3}(x - 3)$

Solid or dotted?

Test pt: $(0,0)$

$0 + 1 > \frac{2}{3}(0 - 3)$

$1 > -2$

Yes! shade that