p. 364 Ex. 1

$-3y < -4x - 12$

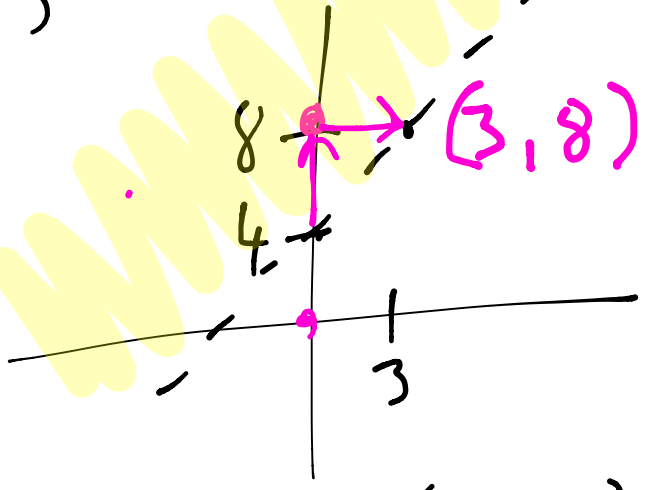
$-3 \quad -3 \quad -3 \quad -3$

$y > \frac{4}{3}x + 4$

$y = \frac{4}{3}x + 4$

$5 = 4$

$m = \frac{4}{3}$



(0, 8)

(0, 0)

$\rightarrow 4x - 3y < -12$

$4(0) - 3(8) < -12$

$0 - 24 < -12$

$-24 < -12$ ✓

$4(0) - 3(0) < -12$

$0 - 0 < -12$

$0 < -12$ ✗

Ex. 2

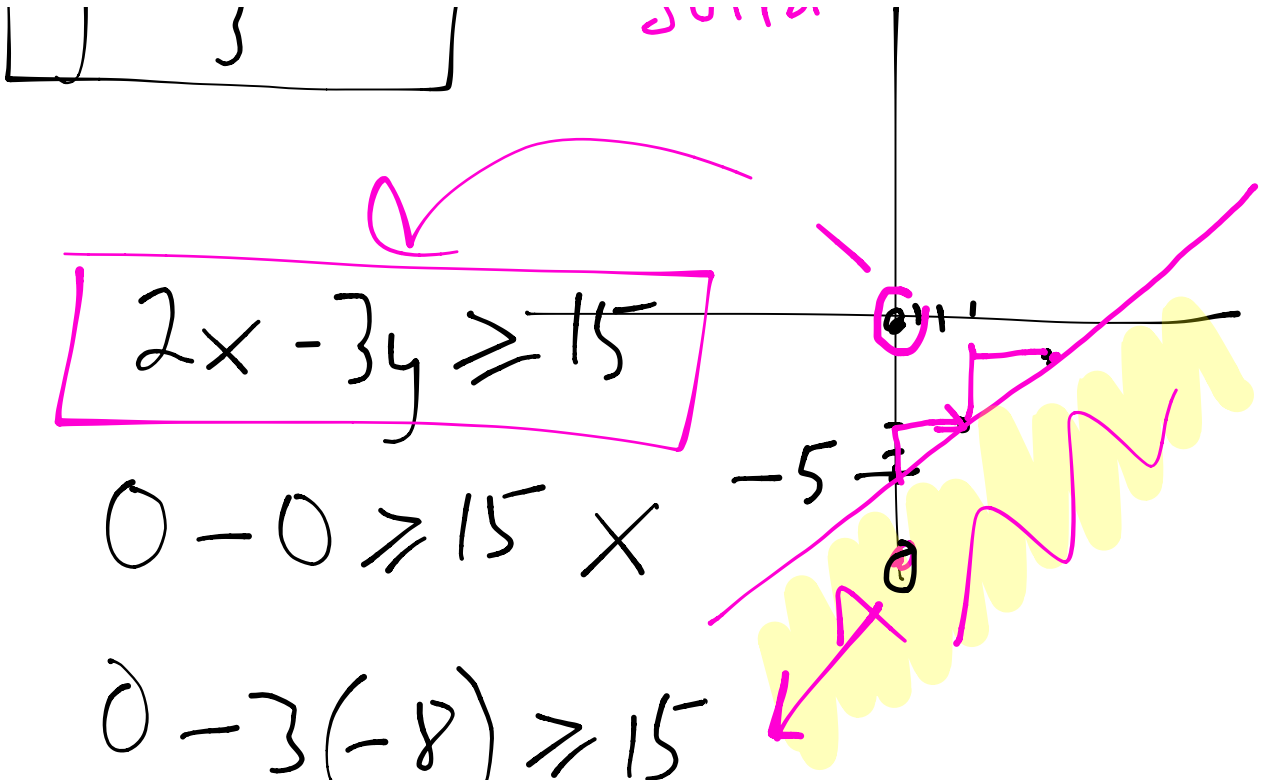
$-3y \geqslant -2x + 15$

$-3 \quad -3 \quad -3$

$y \leqslant \frac{2}{3}x - 5$

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

Solid



$2x - 3y \geq 15$

$0 - 0 \geq 15$ ✗

$0 - 3(-8) \geq 15$

$24 \geq 15$ ✓

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p. 368 #1 – 3

p. 374 #4

a) $b = 5$

→ Point $(5, 0)$

$$y = mx + 5$$

$$0 = m(5) + 5$$

$$-5 = 5m$$

$$m = -1$$

$$\boxed{y = -x + 5}$$

→ solid & below

→ $\boxed{y \leq -x + 5}$

Test: $(0, 0)$

$$0 \leq -0 + 5$$

$0 \leq 5$ ✓

p. 366 **Ex. 3**

$x \rightarrow$ footballs: 4 min

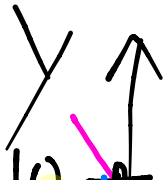
$y \rightarrow$ soccer: 3 min

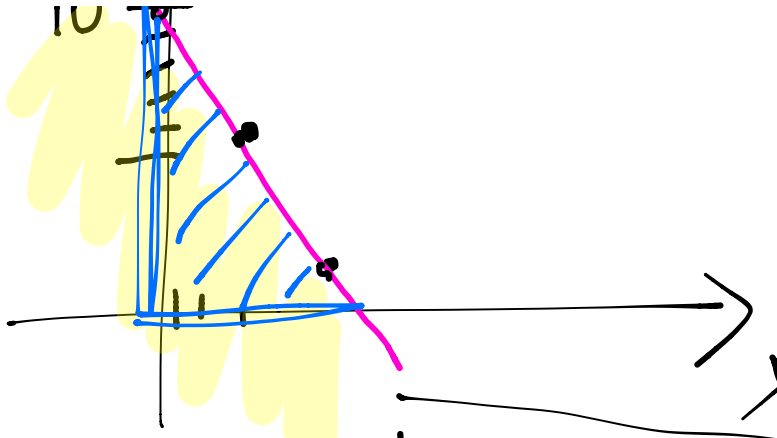
$$4x + 3y \leq 30$$

$$3y \leq -4x + 30$$

$$y \leq -\frac{4}{3}x + 10$$

boundary $y = -\frac{4}{3}x + 10$





$(0,0)$ $\boxed{4x+3y \leq 30}$

$0+0 \leq 30$ ✓

e.g. $(2,3)$

↙ 2 footballs ↘ 3 soccer balls

p. 375

#5: $4\% = 0.04$

$0.04x + 0.054 \geq 300$

↳ $y \geq -\frac{4}{5}x + 6000$

$y \geq -0.8x + 6000$