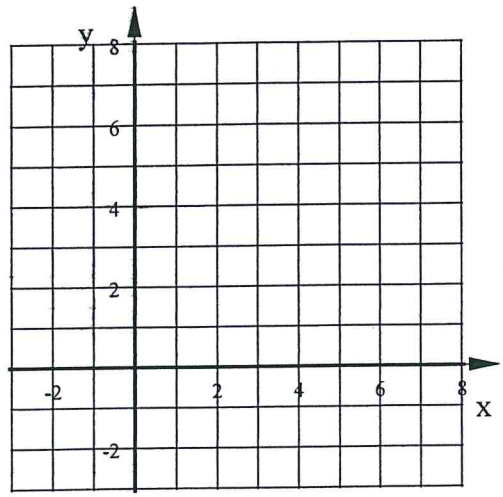
Bellwork Hon Alg 2 Wednesday, October 5, 2016

1. Solve this system of inequalities by graph.

$x \geq 0$ $y \geq 0$ $6x + 3y \leq 24$ $2x + 6y \leq 18$



2. Without solving, state the number of solutions to each system of equations.

a)

$y = 2x + 7$

$2x + 4y = -28$

b)

$y = -5x$

$10x + 2y = 6$

c)

$y - 3 = -\frac{3}{2}(x + 8)$

$6x + 4y = -36$

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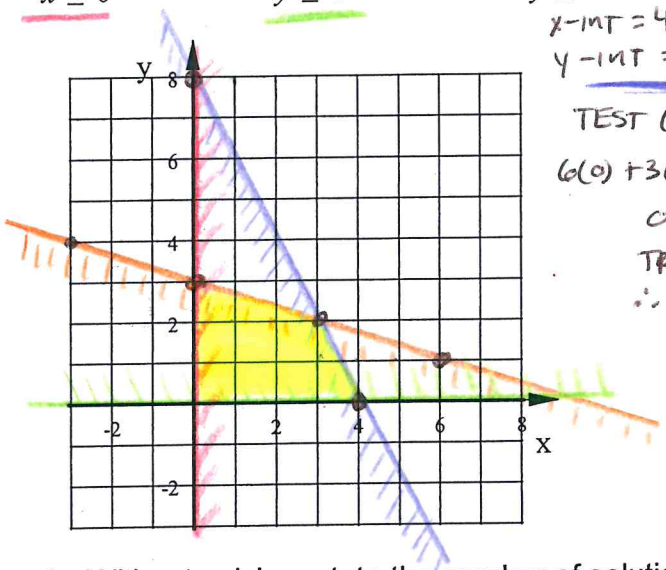

x-int = 4
y-int = 8

TEST (0,0)
$6(0) + 3(0) \leq 24$
$0 \leq 24$
TRUE
∴ shade side with origin

x-int = 9 ✗ Doesn't fit on graph

$\frac{6y}{6} \leq \frac{18 - 2x}{6}$

$y \leq 3 - \frac{1}{3}x$

Solution region in yellow

2. Without solving, state the number of solutions to each system of equations.

a)

$y = 2x + 7$

$2x + 4y = -28$

ONE SOL

$y = \frac{-28 - 2x}{4}$ diff slopes

$y = -7 - \frac{1}{2}x$

b)

$y = -5x$

$10x + 2y = 6$

NO SOL

$y = \frac{6 - 10x}{2}$ parallel lines

$y = 3 - 5x$

c)

$y - 3 = -\frac{3}{2}(x + 8) \rightarrow y - 3 = -\frac{3}{2}x - 12$

$y = -\frac{3}{2}x - 9$

$6x + 4y = -36$

MANY SOL same line

$y = \frac{-36 - 6x}{4} = -9 - \frac{3}{2}x$