Algebra 1 Bellwork Friday, February 6, 2015

1. Your cabin on a river is 16.8 miles from you friends cabin on the same river. One day you paddle upstream (against the current) to you friends cabin and it takes 3.5 hours. The next day you return to your cabin downstream (with the current) and it takes 2.1 hours. Write and solve a system of equations to find the speed you paddle your boat and the speed of the current.

Paddle speed =

Current speed =

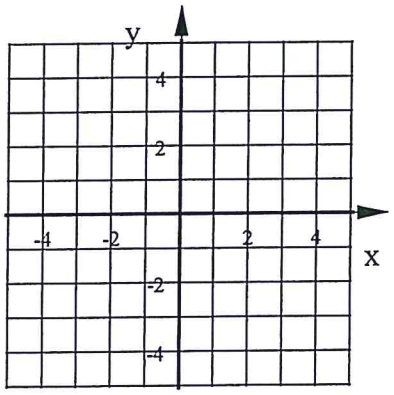
2. You think that the perfect mix for chocolate milk is when the milk contains 42% chocolate. In the refrigerator you have some chocolate milk that is 32% chocolate and some that is 48% chocolate. Write and solve a system of equations to find the number of ounces of each of these should you mix in order to get 50 ounces of your perfect mixture.

ounces of 34% =

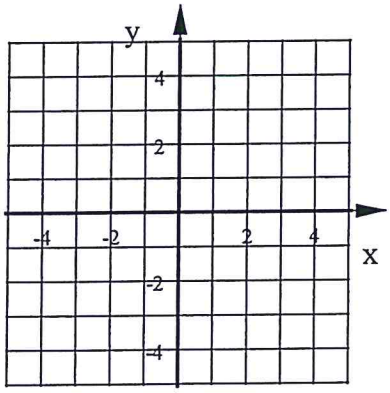
ounces of 48% =

3. Graph each inequality on the x-y plane.

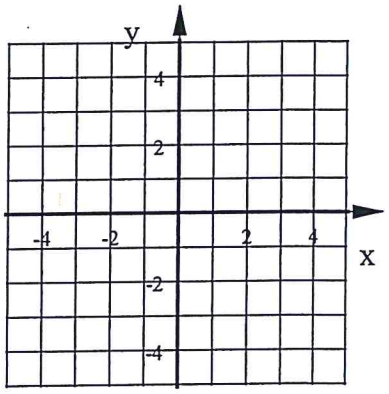
a) $y < -4x - 3$



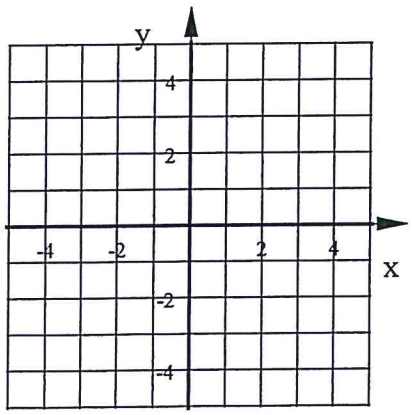
b) $12x - 16y \geq -48$



c) $y \leq 3$

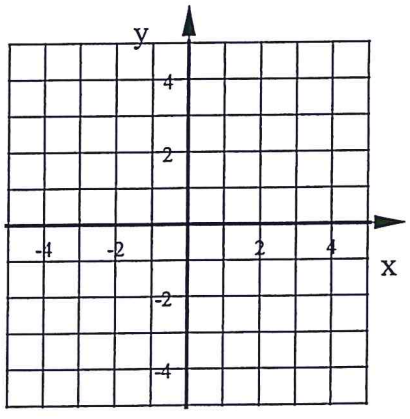


d) $x > -2$



4. Graph this system of inequalities

$y \leq -\frac{1}{3}x$ $\quad 9x - 18y \leq 36$



Algebra 1 Bellwork Friday, February 6, 2015 ANSWERS

1. Your cabin on a river is 16.8 miles from you friends cabin on the same river. One day you paddle upstream (against the current) to you friends cabin and it takes 3.5 hours. The next day you return to your cabin downstream (with the current) and it takes 2.1 hours. Write and solve a system of equations to find the speed you paddle your boat and the speed of the current.

P Paddle speed = 6.4 mph

C Current speed = 1.6 mph

$4.8 = p - c$ ← upstream $16.8 = (p-c)3.5$

$+\ 8 = p + c$ ← downstream $16.8 = (p+c)2.1$

$12.8 = 2p$

$p = 6.4$ → $p + c = 8$, $6.4 + c = 8$ → $c = 1.6$

2. You think that the perfect mix for chocolate milk is when the milk contains 42% chocolate. In the refrigerator you have some chocolate milk that is 32% chocolate and some that is 48% chocolate. Write and solve a system of equations to find the number of ounces of each of these should you mix in order to get 50 ounces of your perfect mixture.

X ounces of 34% = 18.75 ounces

y ounces of 48% = 31.25 ounces

$.32(x + y = 50)$

$.32x + .48y = 21$ ← $(.42)(50)$

$.32x + .32y = 16$

$-\ .32x + .48y = 21$

$-.16y = -5$ → $y = 31.25$

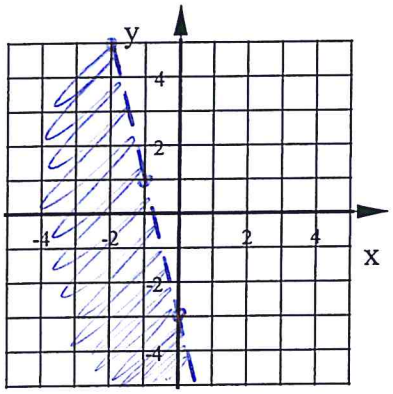
$x + y = 50$

$x + 31.25 = 50$

$x = 18.75$

3. Graph each inequality on the x-y plane.

a) $y < -4x - 3$



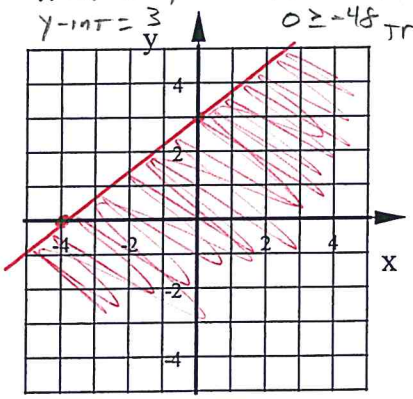
b) $12x - 16y \geq -48$

X-INT = -4

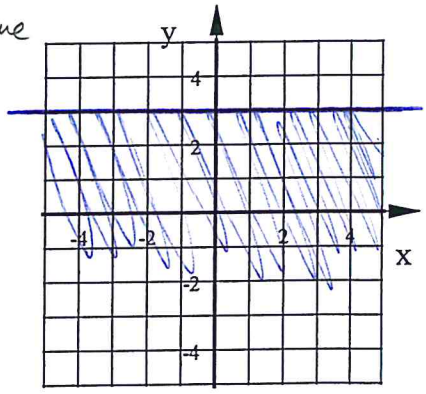
Y-INT = 3

TEST (0,0)

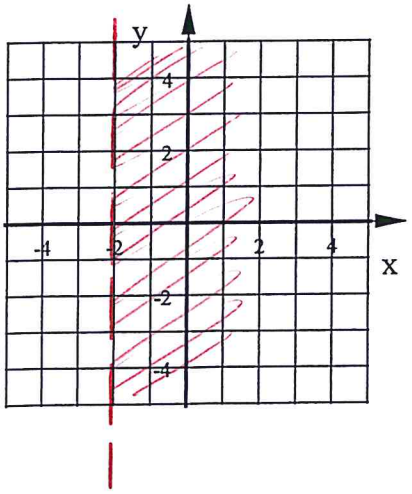
$0 \geq -48$ TRUE



c) $y \leq 3$



d) $x > -2$



4. Graph this system of inequalities

$y \leq -\frac{1}{3}x$ $\quad 9x - 18y \leq 36$

X-INT = 4

Y-INT = -2

TEST (0,0)

$0 \leq 36$ TRUE