1. You think that the perfect summer drink has 20% real lime juice. You've found two lime juice drinks that you will mix together. One of the drinks has 28% real lime juice which you think is too tart. Another drink has 12% lime juice which you think is too bland. How many ounces of each should you mix together to make 40 ounces of 20% real lime juice?

ounces of 28% = X = 20oz

ounces of 16% = Y = 20oz

$.28(X+Y=40)$

$.28X+.12Y=8$

$-(.28X+.28Y=11.2)$

$.28X+.12Y=8$

$-.16Y=3.2$

$Y=20$

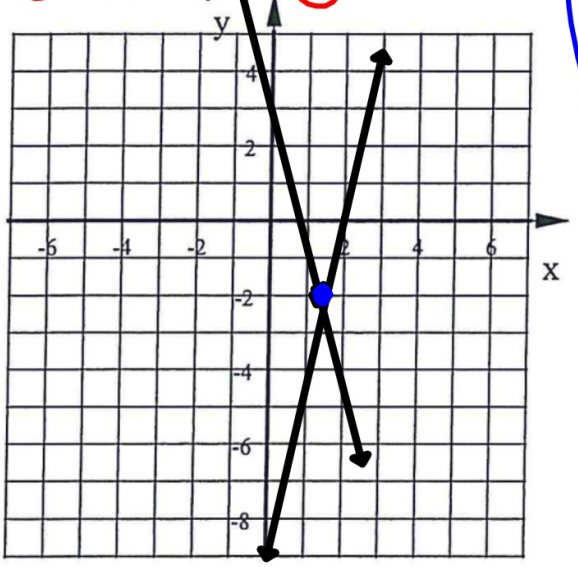
Total oz

% lime

2. Use this system of equations: $y = 5x - 9$ & $10x + 2y = 10$

a) Solve the system by graphing.

(1.4, -2) $y=-2$



b) Solve this system using Algebra (Substitution or Elimination)

$10X+2(5X-9)=10$

$10X+10X-18=10$

$20X=28$

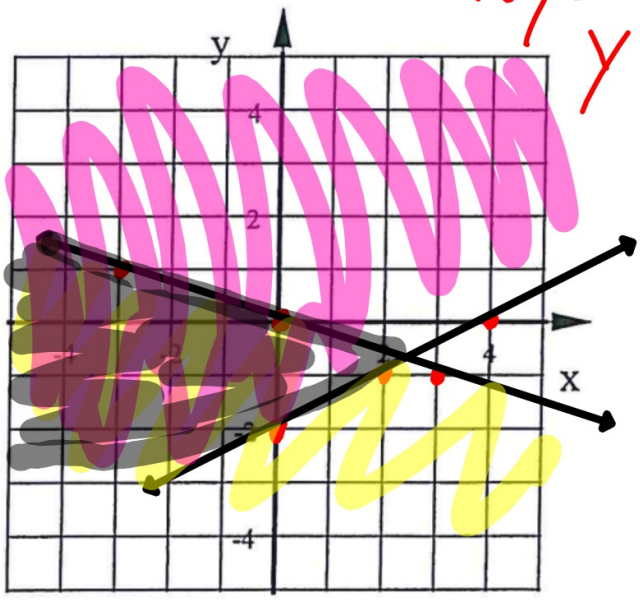
$X=1.4$

3. Graph this system of inequalities.
Shade the solution region a different color than either inequality.

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

$-18y \leq -9x + 36$

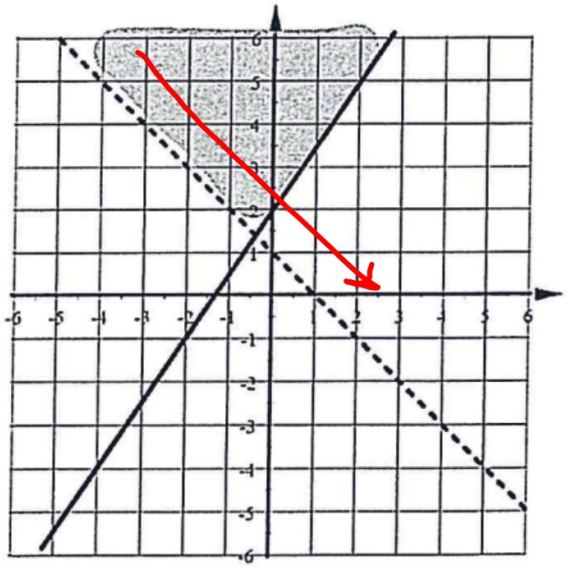
$y \geq \frac{1}{2}x - 2$



4. Write the system of inequalities that this graph represents.

$y > -1x + 1$

$y \geq \frac{3}{2}x + 2$



5. Without graphing tell the number of solutions to each system of equations: ONE, NONE, or MANY.

a) $y = 3x + 7$
$12x - 4y = 40$

$-4y = -12x + 40$
$y = 3x - 10$
|| None

b) $y = 4$
$y = 4x - 9$

$m = 0$
$m = 4$
one

c) $y = -\frac{1}{2}x + 3$
$3x + 6y = 18$

$6y = -3x + 18$
$y = \frac{-1}{2}x + 3$
many

6. Solve this system of equations. State your answer as an ordered pair.

$6c - 4d = -40$ | 2
$4c + 9d = 55$ | 3

$12c - 8d = -80$
$-12c + 27d = 165$
$-35d = -245$
$d = 7$

$4c + 9(7) = 55$
$4c + 63 = 55$
$4c = -8$
$c = -2$

$(-2, 7)$