Algebra 1 Bellwork Wednesday, October 8, 2014

1. Use a sheet of graph paper to solve this system of equations by graphing.

$y = -3x - 5$ $\quad 4x - 8y = -16$

2. Without graphing give the number of solutions to each system of linear equations.

a.
$4x + 6y = 20$
$-10x - 15y = -50$

MANY SOL

$y = \frac{20 - 4x}{6} = \frac{10}{3} - \frac{2}{3}x$ $\quad m = -\frac{2}{3}$, $b = \frac{10}{3}$

$y = \frac{-50 + 10x}{-15} = \frac{10}{3} - \frac{2}{3}x$ $\quad m = -\frac{2}{3}$, $b = 1\frac{2}{3}$

b.
$8x + 4y = 40$
$6x - 12y = -120$

ONE SOL

$y = \frac{40 - 8x}{4} = 10 - 2x$ $\quad m = -2$, $b = 10$

$y = \frac{-120 - 6x}{-12} = 10 + \frac{1}{2}x$ $\quad m = \frac{1}{2}$, $b = 10$

3. Solve each system of equations using either Substitution or Elimination. Don't use the same method twice.

a. ELIM
$9P - 8Q = -11$
$4P - 5Q = -2$

$(-3, -2)$

b. SUBST
$10x + 4y = -25$
$7x - y = -27$ → $y = 7x + 27$

$10x + 4(7x + 27) = -25$
$10x + 28x + 108 = -25$
$38x = -133$
$x = -3.5$

$(-3.5, 2.5)$

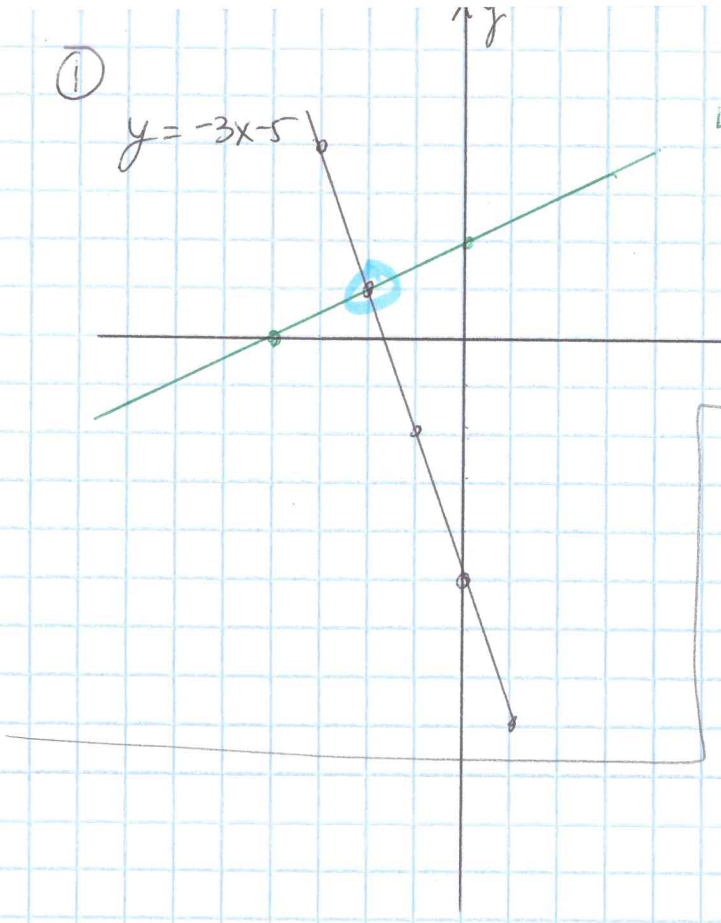
4. On Sunday Mr. Warren took his family to the game. Bags of peanuts cost \$2.29 each and cotton candy cost \$3.49 each. He bought some of each and spent \$19.63. Mr. Warren took his family to the game the following Sunday and the prices went up to \$2.59 for a bag of peanuts and \$3.99 for cottone candy. He bought the same amount of each and spent \$22.33. Write and solve a system of equations to find the number of bags of peanuts and the number of cotton candies purchased each day.

B = # Bags of peanuts
C = # cotton Candies

$2.29B + 3.49C = 19.63$
$2.59B + 3.99C = 22.33$

using matrices:

4 Bags of Peanuts
3 cotton Candies



① $4x - 8y = -16$

x-INT $= \frac{-16}{4} = -4$

y-INT $= \frac{-16}{-8} = 2$

#3 a) $4(9P - 8Q = -11)$
$9(4P - 5Q = -2)$

$36P - 32Q = 44$
$-(36P - 45Q = -18)$
$13Q = -26$
$Q = -2$

$4P - 5(-2) = -2$
$4P + 10 = -2$
$4P = -12$
$P = -3$