Bellwork Friday, April 4, 2014

Solve each system of equations.

1. m - n = 7
   4m + 3n = 35

$4m-4n=28$ $m-1=7$
$-4m+3n=35$ $+1$ $+1$
$-7n=-7$ $m=8$
$n=1$ $(8,1)$

2. $3P - 8Q = 7$
   $5P - 6Q = -3$

$5(-3)-6Q=-3$
$-15-6Q=-3$ $+15$ $+15$
$-6Q=12$
$-6 \quad -6$
$Q=-2$

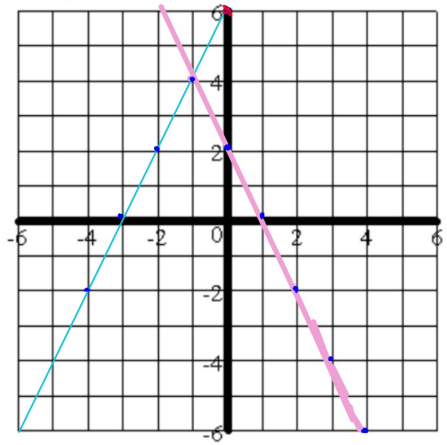
$9p-24Q=21$
$+\ -20p+24Q=12$
$-11p=33$
$\frac{-11p}{-11}=\frac{33}{-11}$ $p=-3$

$(-3,-2)$

3. Find the solution to this system of equations by graphing.

y = 2x+6

10x+ 5y = 10



$(-1,4)$

4. One elementary school has 450 students but has been decreasing by 12 students each year. Another elementary school has 398 students and is increasing by 8 students each year. Write and solve a system of equations to find the number of years it will take for the two elementary schools to have the same number of students.

$S=450-12y$
$S=398+8y$

$450-12y=398+8y$
$-398 \qquad +12y$

$52=20y$
$2.6=y$
$44=S$

5. The grocery store got a delivery of 39 boxes of food. Inside each small box is 16 cans. Inside each large box is 24 cans. When all the boxes were opened there was a total of 768 cans of food. Write and solve a system of equations to find the number of small and large boxes.

# of small boxes:
21
# of large boxes: 18

$S=21$
$L+21$

$L+21=39$
$-21 \quad -21$
18

$18+21=39$

$(L+S=39)\cdot 24$
$(24L+16S=768)\cdot 1$

$24L+24S=936$
$-24L+16S=768$
$8S=168$
$\frac{8S}{8}=\frac{168}{8}$