Algebra 2 Bellwork Wednesday, October 21, 2015

1. On a farm there are only chickens and pigs. One day the farmer counted 59 heads and 188 legs. Write and solve a system of equations to find the number of each kind of animal that is on the farm.

2. Solve this system of equations:

$4C + 6D = 14$

$10C + 15D = 36$

3. Solve this equation by first factoring then finding the zeros of each factor.

$16x^3 - 16x^2 - 140x = 0$

Algebra 2 Bellwork Wednesday, October 21, 2015 ANSWERS

1. On a farm there are only chickens and pigs. One day the farmer counted 59 heads and 188 legs. Write and solve a system of equations to find the number of each kind of animal that is on the farm.

c = # chickens

p = # pigs

$2(c + p = 59) \rightarrow 2c + 2p = 118$

$2c + 4p = 188 \rightarrow -2c + 4p = 188$

$\frac{-2p}{-2} = \frac{-70}{-2}$

$p = 35$

$c = 59 - 35$

$c = 24$

24 CHICKENS & 35 PIGS

2. Solve this system of equations:

$5(4C + 6D = 14)$

$2(10C + 15D = 36)$

$20c + 30D = 70$

$-20c + 30D = 72$

$0 = -2$

No Solution

Lines are parallel.

3. Solve this equation by first factoring then finding the zeros of each factor.

$16x^3 - 16x^2 - 140x = 0$

$4x(4x^2 - 4x - 35) = 0$

$4x(2x - 7)(2x + 5) = 0$

-140, -14, 10, -4

	$2x$	-7
$2x$	$4x^2$	$-14x$
$+5$	$+10x$	-35

$x = 0, \frac{7}{2}, \frac{-5}{2}$