Bellwork Wednesday, October 21, 2015 Algebra 2

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.

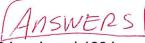
2. Solve this system of equations:

$$4C + 6D = 14$$

$$10C + 15D = 36$$

3. Solve this equation by first factoring then finding the zeros of each factor. $16x^3 - 16x^2 - 140x = 0$

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$$C = \frac{1}{2} \text{ chickens} \qquad 2\left(c + p = 59\right) \implies 2c + 2p = 118 \qquad p = 35$$

$$P = \frac{1}{2} \text{ pigs} \qquad 2c + 4p = 188 \implies -2c + 4p = 188 \qquad c = 59 - 35$$

$$24 \text{ chickens} \approx 35 \text{ pigs} \qquad c = 59 - 35$$

$$24 \text{ chickens} \approx 35 \text{ pigs} \qquad c = 24$$

2. Solve this system of equations:

$$5(4C+6D=14)$$
 20 c + 30D = 70
2(10C+15D=36) - 20 c + 30D = 72

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

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