Algebra 2 Pre-AP
Unit 3 – System of Equations
Sept 29 - Oct 9, 2014

Date	Topic	Assignment
Monday 9/29	3.2 – Substitution and Elimination	Page 164-165: 4, 6, 16, 18, 20, 28-38 even, 42, 46
Tuesday 9/30	3.4 – System of 3 Equations	Worksheet
Wednesday 10/1	3.2 & 3.4 – System of Equations Word Problems	Pages 165-166: 56, 57, 60-63 all, and page 184: 42
Thursday 10/2	3.3 – Graphing System Inequalities	Page 171-172: 4-24 even, 30
Friday 10/3	3.3 – System of Equations Word Problems	Worksheet
Monday 10/6	Linear Programming	Page 176: 1 - 6
Tuesday 10/7	Linear Programming	Worksheet
Wednesday 10/8	Review 1.3	Study!!
Thursday 10/9	**Test 1.3 – Piecewise Graphs and System of Equations**	

<u>Tuesday, September 30</u> – System of 3 Equations

Solve the system using any algebraic method.

1) $\begin{cases} 4x+5y+3z=15 \\ x-3y+2z=-6 \\ -x+2y-z=3 \end{cases}$

2) $\begin{cases} x+2y=-1 \\ 3x-y+4z=17 \\ -4x+2y-3z=-30 \end{cases}$

3) $\begin{cases} 2x-y+4z=19 \\ -x+3y-2z=-7 \\ 4x+2y+3z=37 \end{cases}$

4) $\begin{cases} \frac{1}{3}x+\frac{5}{6}y+\frac{2}{3}z=\frac{4}{3} \\ \frac{1}{6}x+\frac{2}{3}y+\frac{1}{4}z=\frac{5}{6} \\ \frac{2}{3}x+\frac{1}{6}y+\frac{3}{2}z=\frac{4}{3} \end{cases}$

5) For what values of *a, b,* and *c* does the linear system shown have $(-1,2,-3)$ as its only solution?

$$\begin{cases} x+2y-3z=a \\ -x-y+z=b \\ 2x+3y-2z=c \end{cases}$$

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<u>Friday, October 3</u> – System Word Problems (set-up and solve)

1) There are 12 people on the jury. There are 4 more men than women. How many men were there?

2) Brenda drove three times as far as Jan. Brenda drove 24 more miles than Jan. How far did Jan drive?

3) The Ravens won twice as many games as they lost. They played 96 games. How many games did they win?

4) The number of grocery items on two grocery lists differs by 7. The total number of items is 33. How many items are on each list?

5) Jack and Betty have 28 coins that are nickels and dimes. If the value of the coins is $1.95. How many nickels do they have?

<u>Tuesday, October 7</u> - Linear Programming Problems

1. Yolanda, Myriam, and Xavier have a small business producing handmade shawls and blankets. They spin the yarn, dye it and weave it. A shawl requires 1 hour of spinning, 1 hour of dyeing, and 1 hour of weaving. A blanket needs 2 hours of spinning, 1 hour of dyeing, and 4 hours of weaving. They make a $16 profit per shawl and a $20 profit per blanket. Xavier does the spinning on his day off, when he can spend at most 8 hours spinning. Yolanda dyes the yarn on her day off, when she has at most 6 hours. Myriam does all the weaving on Friday and Saturday, when she has at most 14 hours available. How many of each item should they make each week to maximize their profit?

2. Piñatas are made to sell at a craft fair. It takes 2 hours to make a mini piñata and 3 hours to make a regular-size piñata. The owner of the booth will make a profit of $12 for each mini piñata sold and $24 for each regular-size piñata sold. If the craft booth owner has no more than 30 hours available to make piñatas and wants to have at least 12 piñatas to sell, how many of each size should be made to maximize profit?

3. A company manufactures two types of printers, an inkjet printer and a laser printer. The company can make a total of 60 printers per day, and it has 120 labor-hours available. It takes 1 labor-hour to make an inkjet printer and 3 labor-hours to make a laser printer. The profit is $40 per inkjet printer and $60 per laser printer. How many of each type of printer should the company make to maximize its daily profit?

4. The Elite Pottery Shoppe budgets a maximum of $1000 per month for newspaper and radio advertising. The newspaper charges $50 per ad and requires at least four ads per month. The radio station charges $100 per minute and requires a minimum of 5 minutes of advertising per month. It is estimated that each newspaper ad reaches 8,000 people and that each minute of radio advertising reaches 15,000 people. What combination of newspaper and radio advertising should the business use in order to reach the maximum number of people? What assumptions did you make in solving this problem? How realistic do you think they are?