Algebra 2
2.11 - System Application: Notes

Name _____
Date _____ **Period** ___

1. A school band performs a spring concert for a crowd of 600 people. The revenue for the concert is $3150. There are 150 more adults at the concert than students. How many of each type of ticket are sold?

2. A box office sells balcony seats, ground level seats, and VIP passes for shows on tour. The table shows the numbers of each type of ticket sold and the revenues for the first three shows of a tour. What is the price of each type of ticket?

	Balcony	Ground level	VIP	Revenue
Show 1	135	280	29	$37,170
Show 2	150	270	58	$42,240
Show 3	130	265	29	$35,570

3. The juice bar at a health club receives a delivery of juice at the beginning of each month. Over a three-month period, the health club received 1200 gallons of orange juice, 900 gallons of pineapple juice, and 1000 gallons of grapefruit juice. The table shows the compositions of each juice delivery. How many gallons of juice did the health club receive in each delivery? Justify your answer.

Juice	1st delivery	2nd delivery	3rd delivery
orange	70%	50%	30%
pineapple	20%	30%	30%
grapefruit	10%	20%	40%

4. A produce store sells three different fruit baskets, as described in the advertisement shown. Write an augmented matrix to represent the situation. Then use a graphing calculator to determine the price per pound of each item.

5. You want to work at least 10 hours, but less than 20 hours next week. You earn $8 per hour working at a convenience store and $6 per hour mowing lawns. You need to earn at least $92 to cover your weekly expenses. Write and graph a system of linear inequalities to model this situation.