Matrices & Game Theory Unit

Day 7

Quiz Day

& Markov Chain Practice

Warm Up Quiz Day:

1. You have $25 to spend on picking 21 pounds of three different types of apples in an orchard. The Empire apples cost $1.40 a pound, the Red Delicious apples cost $1.10 per pound, and the Golden Delicious apples cost $1.30 per pound. You want to buy twice as many Red Delicious apples as the other two types combined. How many pounds of each apple should you buy?

Quiz 1 Corrections due today
Staple Correction paper on top
& turn in to basket by window

Practice Quiz Day:

The following data is for a certain species of rabbits.

Age (years)	0 - 2	2 - 4	4 – 6	6 – 8	8 – 10	10 – 12
Birthrate	0	0.6	1.4	1.0	0.7	0.2
Survival Rate	0.7	0.8	0.9	0.7	0.5	0
Initial Population	16	14	10	8	2	1

2. Find the population distribution and total population after 16 years.

3. Find the population distribution and total population after 9 cycles.

4. Find the Long Term Growth Rate.

Warm Up Quiz Day ANSWERS:

1. You have $25 to spend on picking 21 pounds of three different types of apples in an orchard. The Empire apples cost $1.40 a pound, the Red Delicious apples cost $1.10 per pound, and the Golden Delicious apples cost $1.30 per pound. You want to buy twice as many Red Delicious apples as the other two types combined. How many pounds of each apple should you buy?

You should buy 5 lbs Empire, 14 lbs Red delicious, and 2 lbs Golden delicious apples.

HW Questions
from Quiz Review ?

After Quiz, start on Tonight's HW – Be careful! ☺

- **Finish Packet p. 6-7**
- Complete Packet p. 9

Matrix Applications Practice

	T-shirts	Sweatshirts	Hoodies
Wal-mart	12	23	15
Target	25	11	25
Academy	10	26	17

A local shirt manufacturer, GH, tries to keep up with his sales in Wal-mart, Target, and Academy Sports. The shirt inventories in all three **stores** are recorded in the table.

Label your rows and columns in your work and your answer.

1. GH makes the T-shirts for $10, the sweatshirts for $12, and the hoodies for $16. Use matrices to calculate GH's cost of making the shirts in each store. Call the resulting matrix C.

2. GH sells the T-shirts to the stores for $13, the sweatshirts for $18, and the hoodies for $20. Use matrices to calculates the income, I, that GH makes from selling the shirts to the stores.

3. Use matrices to calculate the profit that GH makes on his sales to each store.