

Matrices & Game Theory Unit

Day 6

Quiz Day

& Markov Chain Practice

Warm Up Quiz Day:

Remember,
Phones OFF and
in the pockets!

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?

The following data is for a certain species of rabbit.

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?

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5 lbs Empire
14 lbs Red delicious
2 lbs Golden delicious

Warm Up Quiz Day ANSWERS:

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HW Questions
from Quiz Review
or the Shirts Word Problem
(on next slide) ?

Matrix Applications Practice

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.

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

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 calculate 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.

After Quiz, start on

Tonight's HW – Be careful! 😊

- Finish Packet p. 5-6
- Complete Packet p. 8