

Day 2 HW: Mixed Matrix Applications

Name: _____

Follow instructions on the following problems and show all of your work

1. The student council is selling flowers for mother's day. They bought 200 roses for \$1.67 each, 150 daffodils for \$1.03 each and 100 orchids for \$2.59 each. They sold the roses for \$3.00 each, the daffodils for \$2.25 each and the orchids for \$4.50 each. The student council sold out of the flowers!

- Organize the data in two matrices, then use matrix multiplication to find the total amount spent on the flowers.
 - Write two matrices, and use matrix multiplication to find the total amount the student council received for the flower sale.
- c. Use matrix operations to find how much money the student council made on the project.

2. A nut distributor wants to know the nutritional content of various mixtures of almonds, cashews, and pecans. Her supplier has provided the following nutrition information:

	Almonds	Cashews	Pecans
Protein (g/cup)	26.2	21	10.1
Carbs (g/cup)	40.2	44.8	14.3
Fat (g/cup)	71.9	63.5	82.8

Her first mixture, a protein blend, consists of 6 cups of almonds, 3 cups of cashews, and 1 cup of pecans. Her second mixture, a low fat mix, consists of 3 cups of almonds, 6 cups of cashews, and 1 cup of pecans. Her third mixture, a low carb mix consists of 3 cups of almonds, 1 cup of cashews, and 6 cups of pecans. **Determine the amount of protein, carbs, and fats in a 1 cup serving of each of the mixtures.** (Hint: check your units at the end.)

3. An outbreak of Chicken Pox hit the local public schools. Approximately **15%** of the male and female juniors and **25%** of the male and female seniors are currently healthy, **35%** of the male and female juniors and **30%** of the male and female seniors are currently sick, and **50%** of the male and female juniors and **45%** of the male and female seniors are carriers of Chicken Pox. There are **100** male juniors, **80** male seniors, **120** female juniors, and **100** female seniors.

Using two matrices and one matrix equation, find out **how many males and how many females (don't need to divide by class) are healthy, sick, and carriers.**