

Section 3.3

Problem 1. You manage an ice cream factory that makes three flavors: Creamy Vanilla, Continental Mocha, and Succulent Strawberry. Into each batch of Creamy Vanilla go 2 eggs, 1 cup of milk, and 2 cups of cream. Into each batch of Continental Mocha go 1 egg, 1 cup of milk, and 2 cups of cream, while into each batch of Succulent Strawberry go 1 egg, 2 cups of milk, and 1 cup of cream. You have in stock 350 eggs, 350 cups of milk, and 400 cups of cream. How many batches of each flavor should you make in order to use up all of your ingredients?

Problem 2. Urban Community College is planning to offer courses in Finite Math, Applied Calculus, and Computer Methods. Each section of Finite Math has 40 students and earns the college \$40,000 in revenue. Each section of Applied Calculus has 40 students and earns the college \$60,000 in revenue, while each section of Computer Methods has 10 students and earns the college \$20,000. Assuming the college wishes to offer a total of six sections, to accommodate 210 students, and to bring in \$260,000 in revenues, how many sections of each course should it offer?

Problem 3. Aragorn the Great has boasted to his hordes of followers that many a notorious villain has fallen to his awesome sword: His total of 560 victims consists of evil sorcerers, trolls, and orcs. These he has slain with a total of 620 mighty thrusts of his sword; evil sorcerers and trolls each requiring two thrusts (to the chest) and orcs each requiring one thrust (to the neck). When asked about the number of trolls he has slain, he replies, "I, the might Aragorn, despise trolls five times as much as I despise evil sorcerers. Accordingly, five times as many trolls as evil sorcerers have fallen to my sword!" How many of each type of villain has he slain?

Problem 4. In 2007, total revenues from sales of recorded pop, metal, and classical music amounted to \$4 billion. Metal music brought in twice as much as classical music, and pop brought in \$3 billion more than metal music. How much revenue was earned in each of the three categories of recorded music?

Homework: Do #2, 4, 5, 9, 12