Applications of Systems (Supplement, p. 71)

Sample problems, systems of equations

1) A team makes 15 free throws (one point each), and 40 baskets (some two points and some three points), totaling 107 points. How many of each basket are scored?

2) A team scores 123 points. The total number of shots made (including free throws) is 67. The number of 3-point baskets is one-sixth of the number of 2-point baskets. Find the number of free throws and the number of each basket.

3) You have a bunch of nickels and dimes. There are 83 coins altogether, worth $5.60. How many of each coin do you have?

4) You have a bunch of nickels, dimes, and quarters worth $8.00. There are 56 coins total, and they weigh 254 grams. How many of each coin do you have? Assume nickels are 5 grams, dimes are 2 grams, and quarters are 6 grams.

5) How many pounds of See's ($14.50 per pound) and Russell Stover ($7.60 per pound) should be combined to make 8 pounds of chocolates worth $98.75? *

6) How many pounds of See's, Stover, and Palmer chocolates ($2.25 per pound) should be combined to make 10 pounds of chocolate worth $61.15, if there must be 1 more pound of See's than Russell Stover?

7) How much beer (5% alcohol) and wine (12% alcohol) should be mixed to make 5 liters of a beverage that is 10% alcohol?

8) How much beer (5%), wine (12%) and sanitizer (65% alcohol) should be mixed to make 5 liters of liquid that is 16.34% alcohol and costs $34.80? Beer costs $5 per liter, wine is $8, and sanitizer is $10 per liter.

*author's note… This problem is MANY years old.