Math 1526
In each problem set up a descriptive matrix with the columns and rows clearly labeled. Then set up a system of equations.

Problem # 1
A trucking company owns three types of trucks, quarter-ton, half-ton, and one-ton. The company regularly hauls three types of machinery: condensers, generators and transformers. Truck type #1 can carry 10 condensers and 20 transformers per load. Truck type #2 can carry 10 of each. Truck type #3 can carry 10 condensers, 20 generators and 10 transformers. How many trucks of each type should be sent to haul 150 condensers, 160 generators and 190 transformers?

Problem # 2
A traveler who just returned from Europe spent $30 a day for housing in England, $20 a day in France and $20 a day in Spain. For food the traveler spent $20 a day in England, $30 a day in France and $20 a day in Spain. The traveler spent $10 a day on incidental expenses in each country. The records at the end of the trip indicate that the total for housing was $340, for food was $320 and $140 for incidentals. Calculate the number of days spent in each country.

Problem # 3
A wholesaler receives an order for a total of a dozen standard and deluxe electric sweepers. The standard sweepers cost $200 and the deluxe cost $300. With the order was a check for $2900, but the order did not specify the number of each type of sweeper. Determine how to fill the order.

Problem # 4
A manufacture produces three products A, B and C. The profits for each unit sold of A, B and C are $1, $2 and $3 respectively. Fixed costs are $17,000 per year. The costs for producing each unit is $4, $5 and $7 respectively. Next year a total of 11,000 units of all three products will be produced and sold at a total profit of $25,000. If the total cost is to be $80,000, how many units of each product needs to be produced and sold next year?

Problem # 5
A Collectable Teddy Bear Company makes three types of bears: regular, deluxe and limited edition. The regular bear requires one yard of material, 2 ribbons, 4 buttons and 2 bows. The deluxe edition requires two yards of material, 4 ribbons, 3 buttons and one bow. The limited edition requires two yards of material, 3 ribbons, 3 buttons and no bows. The company has in stock a total 440 yards of material, 830 ribbons, 910 buttons, and 320 bows. How many of each type of bear can the company produced with this inventory?