Value based questions

1. A man is known to speak truth 3 out of 4 times. He throws a die and reports it is a six. Find the probability that it is actually not a six? What value of life is violated here?

2. A, B and C visited a market for purchasing fruits. A purchased 1 kg. apples 3 kg. grapes and 4 kg. oranges and paid Rs. 800. B got 2 kg. apples, 1kg. grapes and 2 kg. oranges and paid Rs. 500, while C paid Rs 700 for 5 kg. apples, 1 kg. grapes and 1 kg. oranges. Find the cost of each fruit using matrix method. Why are fruits good for health?

3. The probability that a student entering a university will graduate is 0.4. Find the probability that out of 3 students of the university a) none will graduate.   (b) only one will graduate.   (C) all will graduate.
   What do you think is the importance of education?

4. 70% men and 30% women are smokers. 10% of these men and 20% of these women use "X" brand. What is the probability that a person using "X" brand will be a man? Why should you discourage your friends from smoking?

5. Of the students in a school it is known that 60% come by public transport and 40% come by their own vehicle. Previous year result shows 30% of students who come by public transport report late to school and 40% of the students who come on their own, report late. At the end of the year, one student is chosen at random and is found to be late to school. What is the probability that he comes by public transport?
   In view of today's depleting energy resources comment on the above.

6. A dietician has to develop a special diet using two food P and Q. Each packet (containing 30 gram) of food P contains 12 units of calcium, 4 units of iron, 6 units of cholesterol and 6 units of vitamin A. Each packet of same quantity of food Q contains 3 units of calcium, 20 units of iron, 4 units of cholesterol and 3 units of vitamin A. The diet requires atleast 240 units of calcium, atleast 460 units of iron and at most 300 units of cholesterol. How many packets of each food should be used to minimize the amount of Vitamin A in the diet? What is the minimum amount of Vitamin A?
    Comment on the effects of cholesterol in the food?