

1. The following data are the result of a survey conducted by a marketing company among students for their cola preferences.

	Do Not Drink Cola N	Diet Cola L	Regular Cola R	Total
Female, F	224	420	622	1266
Male, M	196	512	484	1192
Total	420	932	1106	2458

A student is selected at random from this class. Find the probability that :

- The student does not drink cola.
 - The student is female.
 - The student is a female who prefers regular cola.
 - The student prefers regular cola, given that the student is male.
 - The student is male, given that the student prefers regular cola.
 - The student is female, given the student prefers regular cola or does not drink cola.
2. If 2 cards are drawn from a regular deck of 52 cards without replacement, what is the probability that the second card is a queen?
3. A sequence of 2 cards is drawn from a regular deck of 52 cards (without replacement). What is the probability that the first card is red and the second is black?

4. Two cards are drawn at random (without replacement) from a regular deck of 52 cards.
- What is the probability that the first card is a diamond and the second is red?
 - What is the probability that the first card is a heart and the second is black?
 - What is the probability that the first card is black and the second is red?
5. Draw a tree diagram. Motors, Inc., has two plants to manufacture cars. Plant I manufactures 80% of the cars and plant II manufactures 20%. At plant I, 85 out of every 100 cars are rated standard quality or better. At plant II, only 65 out of every 100 cars are rated standard quality or better. We would like to answer the following questions:
- What is the probability that a customer obtains a standard car if he buys a car from Motors, Inc.?
 - What is the probability that the car came from plant I if it is known that the car is of standard quality?