

1. The Titanic sank in 1912 without enough lifeboats for the passengers and crew. Almost 1500 people died, most of them men. Was that because a man was less likely than a woman to survive? Or did more men die simply because men outnumbered women by more than 3 to 1 on the Titanic?

Below is the Titanic Survival Data

	Male	Female	Total
Survived	367	344	711
Did not survive	1364	126	1490
Total	1731	470	2201

- a. What is the probability of someone surviving? $P(\text{surviving}) =$ _____
- b. What is the probability of being a female on the titanic? $P(\text{female})$ _____
- c. Given it was a female on the titanic, what is the probability that they survived?

2. Use the table below to compute the following probabilities.

Age Group	Full-Time	Part-Time	Unemployed	Total
0-17	24	164	371	
18-25	185	203	148	
26-34	348	67	27	
35-49	581	179	104	
50+	443	162	173	
Total				

- a. If a person in this town is selected at random, find the probability that the individual is employed part-time, given that he or she is between the ages of 35 and 49.
- b. If a person in the town is randomly selected, what is the probability that the individual is unemployed, given that he or she is over 50 years old?

3. At Forestwood Middle School, the probability that a student takes Technology and Spanish is 0.087. The probability that a student takes Technology is 0.68. What is the probability that a student takes Spanish given that the student is taking Technology.

4. In New York State, 48% of all teenagers own a skateboard and 39% of all teenagers own a skateboard and roller blades. What is the probability that a teenager owns roller blades given that the teenager owns a skateboard?

5. In the United States, 56% of all children get an allowance and 41% of all children get an allowance and do household chores. What percent of those children that get allowance also do household chores?

6. In a bag are an economics and a math book. Two books are chosen at random without replacement. The probability of selecting an economics book and then a math book is 0.42. The probability of selecting an economics book on the first draw is 0.62. What is probability selecting a math book on the second draw? Given that the first book was economic.

7. In a box of candy there are milk and dark chocolates. Two items are chosen at random from the box, without replacement. The probability of selecting milk and then dark chocolate is 0.47. The probability of selecting a milk chocolate on the first draw is 0.71. What is probability of selecting a dark chocolate on the second draw, given that the first chocolate drawn was a milk chocolate?