

Home Works for Chapter 2

Problem 1. A study was recently done in which 500 people were asked to indicate their preferences for one of three products. The following table shows the breakdown of the responses by gender of the respondents.

Gender	Product Preference		
	A	B	C
Male	80	20	10
Female	200	70	120

Based on these data, what is the probability of selected person is a female and that she prefers product C?

Problem 2. The managers of a local golf course have recently conducted a study of the types of golf balls used by golfers based on handicap. A joint frequency table for the 100 golfers covered in the survey is show below:

Handicap	Type of Golf Ball			
	Strata	Titleist	Nike	Other
< 2	5	8	3	2
2 < 10	8	7	9	10
≥ 10	7	8	10	23

- a) Based on these data, what is the probability that a player will use a Strata golf ball?
- b) Based on these data, if a player has a handicap that is 2 or over, what is the probability that he or she will use a Nike golf ball?

Problem 3. The Anderson Lumber Company has three sawmills which produce boards of different lengths. The following table is a joint frequency distribution based on a random sample of 1,000 boards selected from the lumber inventory.

Sawmill	Board Length			
	8 ft	10 ft	12 ft	14ft
A	140	100	80	14
B	250	20	100	50
C	160	50	16	20

- a) Based on these data, if a board is selected that is 12 feet long, what is the probability that it was made at sawmill A ?
- b) Based on these data, if three boards are selected at random, what the probability that all three were made at sawmill A ?

Problem 4. Harrison Water Sports has three retail outlets: Seattle, Portland, and Phoenix. The Seattle store does 50 percent of the total sales in a year, while the Portland store does 35 percent of the total sales. Further analysis indicates that of the sales in Seattle, 20 percent are in boat accessories. The percentage of boat accessories at the Portland store is 30 and the percentage is 25 at the Phoenix store. If a sales dollar is recorded as a boat accessory, what is the probability that the sale was made at the Portland store?