

Chapter Exercises

Exercise 6.1

Check your answers against those in the ANSWER section.

The safety engineer at Manellis Electronics reported the following probability distribution for the number of on-the-job accidents during a one-month period.

- a. Compute the mean b. Compute the variance.

Number of Accidents	Probability
0	0.60
1	0.30
2	0.10

Exercise 6.2

Check your answers against those in the ANSWER section.

It is known that 60 percent of all registered voters in the 42nd Congressional District are Republicans. Three registered voters are selected at random from the district. Compute the probability that exactly 2 of the 3 selected are Republicans, using:

- a. The rules of probability b. The binomial formula.

Exercise 6.3

Check your answers against those in the ANSWER section.

Labor negotiators estimate that 30 percent of all major contract negotiations result in a strike. During the next year, 12 major contracts must be negotiated. Determine the following probabilities using Appendix A:

- a. no major strikes b. at least 5 c. between 2 and 4 (that is 2, 3, or 4).

Exercise 6.4

Check your answers against those in the ANSWER section.

The probability of a typographical error on any page is 0.002. If a textbook contains 1,000 pages, compute the probability there are:

- a. No typos on a page b. At least 2 typos on a page.

Exercise 6.5

Check your answers against those in the ANSWER section.

A retailer of personal computers just received a shipment of 30 units of a new model. The store has a quality agreement with the manufacturer which states that four of the machines are to be selected for a thorough performance check. If more than one fails a performance test, the shipment is returned. Suppose the retailer did not know that 5 of the 30 incoming personal computers are defective. Compute the probability that exactly two computers of the four selected at random are defective.