

1. Ivy conducted a taste test for four different brands of chocolate chip cookies. Below is a two-way table that describes which cookie each subject preferred and their gender.

		Cookie Brand				Totals
		A	B	C	D	
Female		4	6	13	13	36
Male		22	11	11	14	58
Totals		26	17	24	27	94

Suppose one subject from this experiment is selected at random.

- (a) Find the probability that the selected subject preferred Brand C.
- (b) Find the probability that the selected subject preferred Brand C, given that she is female.
- (c) Are the events “preferred Brand C” and “female” independent? Explain.
- (d) Are the events “preferred Brand C” and “female” mutually exclusive? Explain.
- (e) If a random sample of two subjects is selected, what is the probability that neither preferred Brand A?

2. Officials at Dipstick College are interested in the relationship between participation in interscholastic sports and graduation rate. The following table summarizes the probabilities of several events when a male Dipstick student is randomly selected.

Event	Probability
Student participates in sports	0.20
Student participates in sports and graduates	0.18
Student graduates, given no participation in sports	0.82

- (a) Find the probability that a student graduates, given that he participates in sports.
- (b) Find the probability that the individual does not graduate, given that he participates in sports.
- (c) Draw a tree diagram to summarize the given probabilities and those you determined above.
- (d) Find the probability that the individual does not participate in sports, given that he graduates.