Sec 5.1 Sample Spaces and Probability

1. List the sample space for:
   a. Drawing a tile from a bag containing three tiles: one "A", one "B" , and one "C" and then roll one 6-sided die.

   b. Toss a coin and then draw one marble from a bag that contains 1 red marble and 2 blue marbles.

2. Using problem 1a, find the probability of selecting a "B" and then rolling an even number.

3. You draw one card from a standard deck of playing cards.   Find the probability:
   a. Your card is a heart
   b. Your card is red
   c. Your card is *not* a diamond
   d. Your card is a face card (Jacks, Queens, and Kings)

4. You roll two six-sided dice. Find the probability:

   a. The sum is 5
   b. The sum is more than 3
   c. The sum is not 12
   d. The sum is at most 5

Sec 5.2 Independent and Dependent Events

1. You are randomly selecting two books from a box one at a time. There are five non-fiction books, 4 reference books, and 11 fiction books.   Find the probability that your first book is fiction and the second is fiction when:

   a. You replace the first book

   b. You do not replace the first book.

2. You randomly draw cards from a standard deck of playing cards. Find the probability that your first card is a heart and the second is a heart when:

   a. You replace the first card

   b. You do not replace the first card.

Sec 5.3 Two-way tables and Probability

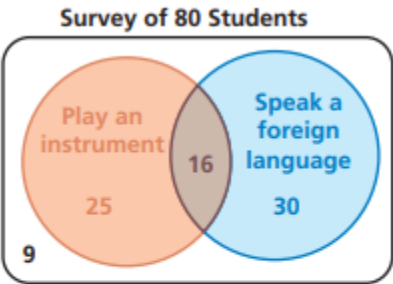1. Answer the following questions about the two-way table.

		Attendance		
		Attending	Not Attending	Total
Class	Junior	42	64	106
	Senior	77	37	114
	Total	119	101	220

a. What is the probability that a junior did not attend the dance?
b. What is the probability that a student that attends the dance is a senior?
c. What is the probability that a student that did not attend is a junior?

2. Complete the two - way table.

		Preparation		
		Studied	Did Not Study	Total
Grade	Pass		6	
	Fail			10
	Total	38		50

3. Read the following, then complete the table and answer the questions.

Survey of 80 Students

Play an instrument: 25
16
Speak a foreign language: 30
9

The Venn diagram shows the results of a survey in which 80 students were asked whether they play a musical instrument and whether they speak a foreign language. Use the Venn diagram to complete the two-way table. Then use the two-way table to answer each question.

	Play an Instrument	Do Not Play an Instrument	Total
Speak a Foreign Language			
Do Not Speak a Foreign Language			
Total			

a. What is the probability that a student speaks a foreign language and plays an instrument?

b. What is the probability that a student that does not speak a foreign language does not play an instrument?

c. What is the probability that a student surveyed speaks a foreign language?

d. What is the probability that a student surveyed does not play an instrument?