Practice 4.1.1: Describing Events

The table below shows a group of students and some of the sports in which they participate. Use the table to complete problems 1 and 2.

Student	Soccer	Basketball	Softball	Volleyball
Omar		✔		
Julia			✔	
Mason				
Jacey	✔	✔		
Xin	✔			
Paul	✔			✔

1. A student is chosen from the group at random. Describe the event {Omar, Julia, Jacey}.

2. A student is chosen from the group at random. Describe the event {Jacey}.

Some students were asked what types of jobs they have had since beginning high school. The table below shows the results of the survey, with the students identified by their initials. Use the table and the information that follows to complete problems 3 and 4.

Student	Babysitting	Fast food	Retail	Office work	Lawn care
RJ	✔	✔		✔	
AS	✔		✔		
AL			✔	✔	
JC		✔			✔
LL	✔	✔	✔		
DB					
NP	✔				
DL					✔

A student is chosen from the group at random. Consider the following events.

B: The student has held a babysitting job.

F: The student has worked at a fast-food business.

R: The student has worked at a retail business.

O: The student has worked at an office.

L: The student has held a lawn-care job.

continued

3. List the outcomes of $B \cap R$.

4. List the outcomes of $\overline{F \cup R}$.

Use the given information to complete problems 5 and 6.

Five students have the following locker combinations:

9–20–10 20–12–13 8–5–18 21–13–11 5–13–14

One of the combinations is chosen at random. Consider the following events.

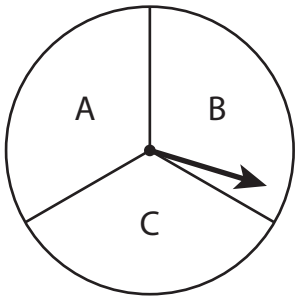
E: The chosen combination contains an even integer.

F: The chosen combination contains a factor of 36.

5. Draw a Venn diagram to show the sample space and the events *E* and *F*.

6. Describe the events $E \cap F$ and $\overline{E \cup F}$ by listing their outcomes.

An experiment consists of spinning the following spinner two times. Use the spinner diagram and the information that follows to complete problems 7 and 8.



Consider the following events.

P: two vowels

Q: no vowels

R: two consonants

S: exactly one vowel

T: exactly one consonant

continued

7. Choosing from *P, Q, R,* and *T,* what event(s) are the same as *S*?

8. Choosing from *P, Q, R, S,* and *T,* what event(s) are the same as $\overline{P}$?

For problems 9 and 10, consider the experiment of rolling a pair of dice.

9. How many ways can you roll a pair of dice and get a sum of 7?

10. How many ways can you roll a pair of dice and get an even product?