

Name:

Date:

UNIT 6 • DESCRIBING DATA

Lesson 2: Working with Two Variables

Practice 6.2.1: Summarizing Data Using Two-Way Frequency Tables

B

A town surveys 50 of its residents to help decide where to place some new buildings. Each resident was asked to identify the building he or she would use most frequently: a library, a recreation center, or a playground. Each resident also noted if they lived in the north or south side of town. The results of the survey are recorded in the following data tables. Use the data for problems 1–6.

Resident	Location	Building preference	Resident	Location	Building preference
1	North	Library	18	North	Playground
2	South	Playground	19	North	Playground
3	North	Playground	20	South	Library
4	South	Playground	21	North	Library
5	North	Library	22	North	Recreation center
6	South	Recreation center	23	South	Library
7	North	Library	24	South	Library
8	South	Library	25	South	Recreation center
9	North	Playground	26	North	Library
10	South	Playground	27	South	Playground
11	North	Library	28	North	Playground
12	South	Recreation center	29	South	Playground
13	North	Library	30	South	Recreation center
14	South	Library	31	South	Recreation center
15	North	Library	32	North	Playground
16	South	Library	33	South	Recreation center
17	North	Recreation center	34	North	Recreation center

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Resident	Location	Building preference	Resident	Location	Building preference
35	North	Library	43	South	Library
36	North	Playground	44	South	Recreation center
37	South	Recreation center	45	South	Recreation center
38	South	Recreation center	46	North	Library
39	North	Recreation center	47	South	Library
40	South	Recreation center	48	South	Recreation center
41	North	Playground	49	South	Library
42	South	Recreation center	50	North	Recreation center

1. Create a two-way frequency table showing the buildings preferred by residents of each location.
2. Find the marginal frequencies for each location and for each building. Include the marginal frequencies in the table.
3. What are the conditional frequencies relative to the total number of people surveyed? Include the values in a table.
4. What are the conditional frequencies relative to the total number of people from each location?
5. Describe any trends in the buildings preferred by all residents and the buildings preferred by residents in the north of town versus residents in the south of town.
6. How could this information be used to decide where to build each of the three buildings?

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Favorite meals of Mrs. Gale's students are listed in the two-way frequency table. Use the table for problems 7–10.

Gender	Favorite meal			
	Pizza	Hamburger	Hot dog	Spaghetti
Male	18	17	9	12
Female	14	7	13	19

- Find the marginal frequencies for each food and for each gender. Include the marginal frequencies in a table.
- What are the conditional frequencies relative to the total number of males and females? Include the values in a table.
- What are the conditional frequencies relative to the total number of people surveyed?
- Describe any trends in the foods preferred by all students and the foods preferred by males and females.