**11-5 Additional Practice**Two-Way Frequency Tables

**In a survey, juniors and seniors who either drive or ride the bus to school were  
asked how they get to school. There are 80 juniors and 120 seniors who drive to school. Of the 100 juniors and seniors who ride the bus, 70 are juniors.**

**1.** Complete the two-way frequency table to organize the data.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Drive | Bus | Total |
| **Junior** |  |  |  |
| **Senior** |  |  |  |
| **Totals** |  |  |  |

**2.** Make a table for conditional relative frequencies for rows.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Drive | Bus | Totals |
| **Junior** |  |  |  |
| **Senior** |  |  |  |

**3.** Make a table for conditional relative frequencies for columns.

|  |  |  |
| --- | --- | --- |
|  | Drive | Bus |
| **Junior** |  |  |
| **Senior** |  |  |
| **Totals** |  |  |

**4.** Is the percent of juniors who drive the same as the percent of drivers who are  
juniors? Explain.

**5.** What percent of the students surveyed are seniors who take the bus?

**6.** Suppose a student is selected at random. Which is more likely to be selected, a  
senior who takes the bus or a junior who drives? Explain.

**11-5 Reteach to Build Understanding**Two-Way Frequency Tables

Two–way frequency tables show relationships between two sets of categorical  
data. Entries in the body of the table are joint frequencies (counts) or joint relative  
frequencies (ratios), and entries that are totals are marginal frequencies or marginal  
relative frequencies.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Book | E Reader | Total |
| **Student** | 40 | 50 | 90 |
| **Adult** | 80 | 30 | 110 |
| **Total** | 120 | 80 | 200 |

**1.** For each statement below, use the table to  
identify the type of frequency it describes.

The number of students who preferred using a book was 40. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Of all the respondents, 15% were adults who  
preferred e-readers. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The number of adult respondents was 110. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Of all the respondents, 60% preferred books. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Use the table shown below for Items 2 and 3.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Soccer | Basketball | Total |
| **Male** |  |  |  |
| **Female** |  |  |  |
| **Total** |  |  |  |

**2.** A student makes an error when interpreting  
the two-way frequency table. Identify and  
correct the error the student made.

Of all the females that were surveyed,  
35% prefer soccer.

50% of those surveyed were males.

35% of the respondents prefer basketball.

**3.** Complete the table to calculate conditional relative frequency.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Soccer | Basketball | Total |
| **Male** |  |  |  |
| **Female** |  |  |  |