

# Circle Graphs

A **circle graph** displays data as sections of a circle. The entire circle represents all of the data. Each section represents part of the data and can be labeled using the actual data or the data expressed as fractions, decimals, or percents. When the data are expressed as fractions or decimals, the sum of the data is 1. When the data are expressed as percents, the sum of the data is 100%.

The sum of the angle measures in a circle graph is  $360^\circ$ . When the data are given as percents, multiply the decimal form of each percent by  $360^\circ$  to find the angle measure for each section.

**Example 1** The table shows the results of a survey. Display the data in a circle graph.

Favorite Season	Students
Winter	16
Spring	29
Summer	67
Fall	48

**Step 1** Find the total number of students in the survey.

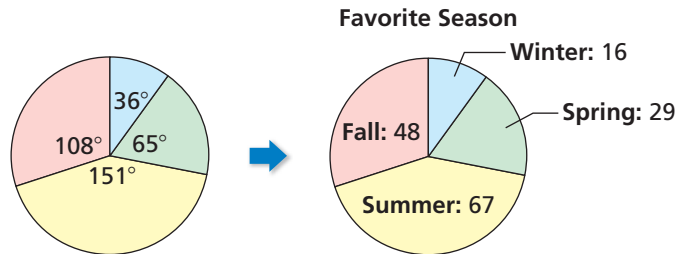
$$16 + 29 + 67 + 48 = 160$$

**Step 2** Find the angle measure for each section of the circle graph. Multiply the fraction of students that chose each season by  $360^\circ$ .

**Winter:**  $\frac{16}{160} \cdot 360^\circ = 36^\circ$       **Spring:**  $\frac{29}{160} \cdot 360^\circ \approx 65^\circ$

**Summer:**  $\frac{67}{160} \cdot 360^\circ \approx 151^\circ$       **Fall:**  $\frac{46}{160} \cdot 360^\circ = 108^\circ$

**Step 3** Use a protractor to draw the angle measures found in Step 2 on a circle. Then label the sections.



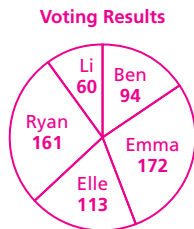
## Practice

Check your answers at [BigIdeasMath.com](http://BigIdeasMath.com).

Display the data in a circle graph.

1.

Candidate	Ben	Emma	Elle	Ryan	Li
Votes	94	172	113	161	60



2.

Transportation	Percent of Students
Car	24%
Bus	20%
Bike	13%
Walk	43%

