Looking Ahead

The following example highlights a portion of the process in considering what graphical display is best to represent a particular set of data.

Example Preview

Could a pie chart be constructed from the following set of data?

Item	Percent of Income Spent on Item
Rent	19
Food	13
Car	19
Entertainment	15

Solution

The total sum of the percents given in the second column is 66.

Since the percents sum to a value less than 100%, the parts listed in the table do not make up the total budget, so some items must be missing. This data could not be represented by a pie chart since the corresponding wedges would not form a complete circle.

2.R.6 Exercises

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. In creating a vertical bar graph, a bar's width should vary based on the number it represents.

2. The first step in constructing a vertical bar graph is to draw a vertical and a horizontal axis.

3. Bar graphs can have either vertical or horizontal bars.

4. Titles are unnecessary for circle graphs.

Applications

For each set of data, construct the specified graph.

5. ***Geography:*** Construct a bar graph that represents the following data.

Largest Islands of the World

Island	Area in Square Miles (nearest ten thousand)
Greenland	840,000
New Guinea	310,000
Borneo	290,000
Madagascar	230,000
Baffin	200,000
Sumatra	180,000
Honshu	90,000
Great Britain	90,000

6. ***Movies:*** Construct a bar graph that represents the following data.

10 Top Films by Domestic Box Office Earnings, 2016

Motion Picture	Box Office(in millions of dollars)
Rogue One: A Star Wars Story	$532.2
Finding Dory	$486.3
Captain America: Civil War	$408.1
The Secret Life of Pets	$368.4
The Jungle Book (2016)	$364.1
Deadpool	$363.1
Zootopia	$341.3
Batman v Superman: Dawn of Justice	$330.4
Suicide Squad	$325.1
Sing	$270.3

Source: Information courtesy of Box Office Mojo. Used with permission. www.boxofficemojo.com

7. ***Anatomy:*** Construct a circle graph that represents the following data.

Percent of Population with Particular Blood Types

Type of Blood	Percent of Population
O positive (O^+)	38%
O negative (O^-)	7%
A positive (A^+)	34%
A negative (A^-)	6%
B positive (B^+)	9%
B negative (B^-)	2%
AB positive (AB^+)	3%
AB negative (AB^-)	1%

Source: AABB.org

8. ***Energy:*** Construct a circle graph that represents the following data.

Sources for World Electricity Generation in 2014

Source of Energy	Percent
Coal/Peat	40.8%
Natural Gas	21.6%
Hydro	16.4%
Nuclear	10.6%
Oil	4.3%
Other	6.3%

Source: Key World Energy Statistics, 2016. International Energy Agency.

Writing & Thinking

9. While most graphs can be created through the use of a computer, give at least one benefit from constructing a graph yourself.

10. List three mistakes a person might make when constructing a graph.