

11.R.2 Exercises

Concept Check

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. 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. 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. 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. 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.