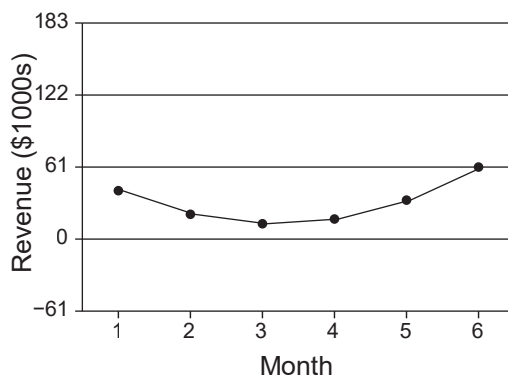


Looking Ahead

The following example features a line graph, as we have reviewed in this section. Looking carefully at the elements of the graph and considering what data the graph is representing, we can consider the appropriateness of the graph.

Example Preview

Is the y -scale appropriate for the following graph?



Solution

The values on the y -axis represent data values that are positive and negative. Since the graph is representing revenue, which means a financial gain, negative values would not appear on the graph. Therefore, this graph has a y -scale which is too large for the data given.

2.R.5 Exercises

Concept Check

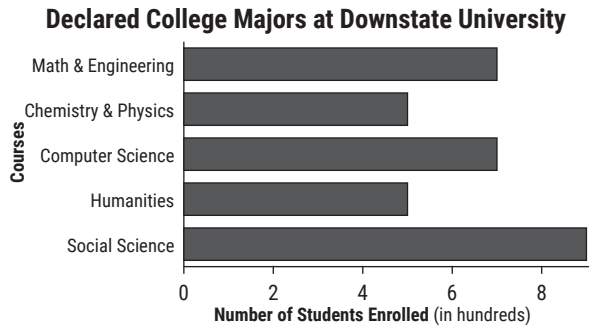
True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. Graphs should always be clearly labeled, easy to read, and have appropriate titles.
2. Circle graphs show trends over a period of time.
3. The frequency is the number of data items in a class.
4. Numbers that are halfway between the upper limit of one class and the lower limit of the next class are the class boundaries.

Applications

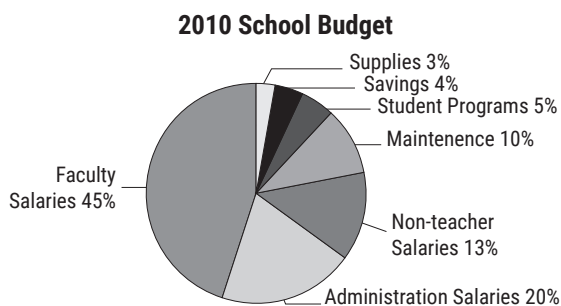
Answer the questions using the given graphs.

5. **Education:** The following bar graph shows the number of students in five fields of study at a university.



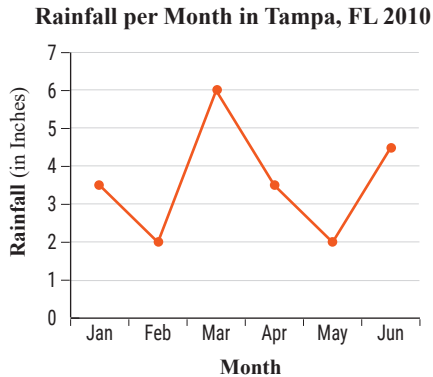
- Which field(s) of study has the largest number of declared majors?
- Which field(s) of study has the smallest number of declared majors?
- How many declared majors are indicated in the entire graph?
- What percent are computer science majors? Round your answer to the nearest tenth of a percent.

6. **Budgeting:** The following circle graph represents the various areas of spending for a school with a total budget of \$34,500,000.



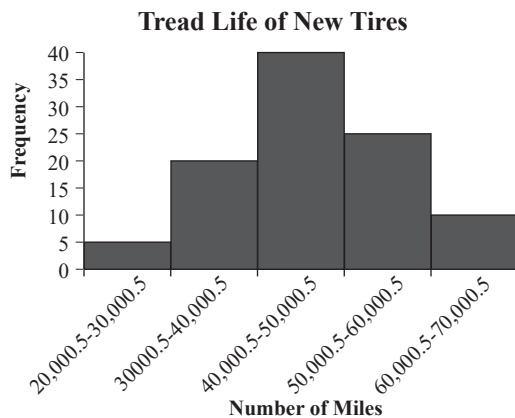
- What amount will be allocated to each category?
- What percent will be for expenditures other than salaries?
- How much will be spent on maintenance and supplies?
- How much more will be spent on teachers' salaries than on administration salaries?

7. **Weather:** The following line graph shows the total monthly rainfall in Tampa, Florida for the first 6 months of 2010.¹



- a. Which months had the least rainfall?
- b. What was the most rainfall in a month?
- c. What month had the most rainfall?
- d. What was the mean rainfall over the six-month period (to the nearest hundredth)?

8. **Tires:** The following histogram summarizes the tread life for 100 types of new tires.



- a. How many classes are represented?
- b. What is the width of each class?
- c. Which class has the highest frequency?

¹ Source: weather.gov

Writing & Thinking

9. State three properties or characteristics that should be true of all graphs so that they can communicate numerical data quickly and easily.

10. Compare and contrast a bar graph and a histogram.