

Pre-Algebra: Week of April 27 – May 1, 2020

Time Allotment: 40 minutes per day

Student Name: _____

Teacher Name: _____

Academic Honesty

I certify that I completed this assignment
independently in accordance with the GHNO
Academy Honor Code.

Student signature:

I certify that my student completed this
assignment independently in accordance with
the GHNO Academy Honor Code.

Parent signature:

Packet Overview

Date	Objective(s)	Page Number
Monday, April 27	1. Describe the range of applications of statistics 2. Identify situations in which statistics can be misleading 3. Define “Statistics”	2
Tuesday, April 28	Justify the different types of graphs to use: bar graphs, line graphs or pie graphs.	6
Wednesday, April 29	1. Create a line graph to illustrate the data in a table. 2. Create pie charts to compare parts to a whole.	8
Thursday, April 30	Solve problems using data represented in bar graphs, dot plots, and circle graphs, including part to whole and part to part comparisons and equivalents.	12
Friday, May 1	1. Interpret Data on Line, Bar and Pie Graphs 2. Review Prior Concepts	21

Additional Notes:

Apologies for the length of this week’s packet. As you will see, due to the subject matter we are covering—charts and graphs—the examples, problems and answers take up a LOT of space. For example, of the 38 pages of this packet, 10 pages cover the 18 problems that make up Thursday’s lesson and 10 pages consist of the answer keys for the week. As always, if you are spending more than 40 minutes on a lesson, please get your parent’s signature verifying that you spent at least 40 minutes and you will receive full credit for that day.

Please create an “Exercise Packet” which is to include all your work and completion of these daily exercises. Each day is to have a title with the date followed by the name of the lesson. Please include a title page, your name on all pages and staple all the completed exercises. **You can either drop-off your completed work or upload it to Google Classroom!**

Remember Guided Instruction via Zoom. As a reminder, this means during the designated times below you can contact us to ask questions, go over problems etc... For example, if you had Pre-Algebra with Mrs. Walters during Period 5, then on Tuesday and Thursday from 11-11:50 you can connect with her via Zoom.

	Monday	Tuesday	Wednesday	Thursday
10-10:50	Period 1	Period 4	Period 1	Period 4
11-11:50	Period 2	Period 5	Period 2	Period 5
11:50-1	Break			
1-1:50	Period 3	Period 6	Period 3	Period 6

Remember, you can email at any time!! Email: Patrick.Franzese@greatheartsnorthernnoaks.org or Melisa.Walters@greatheartsnorthernnoaks.org

Thank you students, for all your hard work and commitment to Pre-Algebra. We appreciate all of you. Have a great week!

Monday, April 27, 2020

Pre-Algebra: Chapter 12

Lesson: Statistics

Objectives:

1. Describe the study of applications of statistics
2. Identify situations in which statistics can be misleading
3. Define “Statistics”

Lesson

Everyday life produces masses of numerical facts that we refer to as **data**. Often there is a need to analyze some of these data in order to draw conclusions, and so we organize the data into a table, chart, or graph. This process of organizing and analyzing data is part of the branch of mathematics that is called **statistics**.

What is a statistic?



A **statistic** is a piece of data from a **portion of a population**. It’s the opposite of a parameter. A parameter is data about an entire population. For example, a parameter is data from a census. A census surveys *everyone*.

Think of it like this: If you have a bit of information, it’s a statistic. If you look at part of a data set, it’s a statistic. If you know something about 10% of people, that’s a statistic too. Parameters are **all** the information. And all the information is rarely known. **That’s why we need stats!**

The study of statistics involves math and relies upon calculations of numbers. But it also relies heavily on how the numbers are chosen and how the statistics are interpreted.

Statistics include numerical facts and figures. For instance:

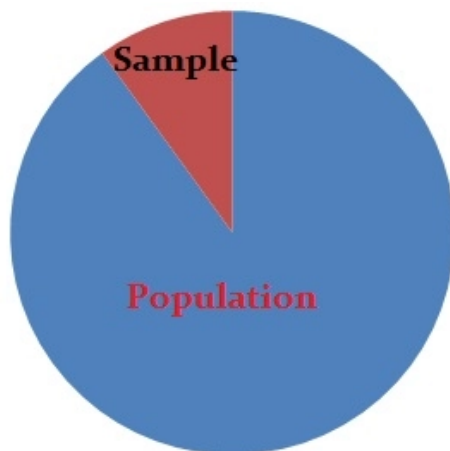
- The largest earthquake measured 9.2 on the Richter scale.

Notation:

In general, stats notation is in Roman letters, a-z. Parameters have Greek letters *or* uppercase Roman). If some letters look the same: look closely. For example, look for the small p and large P. Usually, if you see a large letter (i.e. P), it’s a parameter. Small letters usually mean it’s a stat.

Measurement	Statistic (Roman or lowercase)	Parameter (Greek or uppercase)
Population Proportion	p	P
Data Elements	x	X
Population Mean	\bar{x}	μ

Sample versus Population Example:



If you go into a candy store, the owner might have **samples of their products** on display. It wouldn't be possible for you to sample everything in the store; Financially the owner wouldn't want you to taste everything for free. And you probably wouldn't want to eat a sample of candy from a couple hundred jars or you might get sick to your stomach. So, you might base your opinion about the entire store's candy line based on the samples they have to offer. The same logic holds true for most surveys in stats; You're only going to want to take a sample of the whole population ("population" in this example would be the entire candy line). The result is a **statistic about that population**.

In statistics, population refers to the total set of observation that can be made.

Other examples of **population** include:

- If we are studying the weight of adult women, the **population** is the set of weights of all the women in the world.
- If we are studying the grade point average (GPA) of students at Rice University, the **population** is the set of GPA's of all the students at Rice University.

Use the scenario to identifying populations and samplings. Circles the correct answer and then check your answers.

- 1) A beverage company wanted to see if people in the United States liked their new logo. Which choice **best** represents a population?
 - a) A selection of logo artists.
 - b) Every person in the United States.
 - c) A selection of shoppers from different states.
 - d) 3,800 children age 5 - 15

- 2) A toy store owner tracking how much kids spend each month on toys. Which choice **best** represents a population?
 - a) All of the kids who buy toys.
 - b) 227 rich kids.
 - c) 228 boys age 7 - 15
 - d) 235 kids from age 10 to 15.

- 3) A musician wanted to see what people who bought his last album thought about the songs. Which choice **best** represents a sample?
 - a) Every person who bought the album.
 - b) A selection of people who didn't want to buy the album.
 - c) 250 girls who bought the album.
 - d) A selection of 3,294 people who bought the album.

- 4) Before a nation-wide election, a polling place was trying to see who would win. Which choice **best** represents a sample?
 - a) A selection of voters over age 50.
 - b) A selection of male voters.
 - c) A selection of voters of different ages.
 - d) All voters.

- 5) A mayor wanted to see if the people in his town thought he was doing a good job. Which choice **best** represents a sample?
 - a) 1,000 unemployed voters.
 - b) The mayor's family.
 - c) The residents of the town.
 - d) 242 voters.

**POPULATION
INFERENCES**

- Once a sample has been collected from a population, an inference about the entire population can be made by setting up a proportion.
- These inferences can also be used to compare different populations and make predictions.

Exercises for Monday, April 27, 2020

1. Great Hearts middle school conducted a survey of randomly selected 6th graders to determine which elective they were most likely to participate in. The results are shown in the table below:

	SPANISH	THEATER	ART
6 TH GRADE	14	20	6

- How many students were surveyed?
- What percentage of students surveyed selected Spanish as their elective of choice?
- The school estimates that there are actually 350 students in the 6th grade. Using this sample, about how many students can be expected to sign up for art?
- The school estimates that there are actually 350 students in the 6th grade. Using this sample, how many students can be expected to sign up for theater?
- The school decides to drop any elective in which less than 10% of the population has signed up for. Miguel says that since only 6 people signed up for art, it should be dropped. Explain why this is or is not correct.

- Mark each of the following statements as true or false based on the data.
 - Over half of the students at Eastside Middle School will select theater for their elective.
 - Combined, the Spanish and art classes account for 50% of the elective results.
 - Out of the 350 students at Eastside Middle School, at least 120 will sign up for Spanish.

2. Also, do Review Exercises, Pg 444 #1-10 ALL

Tuesday, April 28, 2020

Pre-Algebra: Chapter 11

Lesson: Bar Graphs

Objective: Justify the different types of graphs to use: bar graphs, line graphs or pie graphs.

Lesson: What is a graph?

A graph is a drawing that uses lines, points, and other graphic elements to show patterns in data. Different types of graphs are used to show different types of data.

When we wish to have a visual display of data, we use various kinds of graphs. One type of graph that is used frequently is the bar graph. In a **bar graph**, data are represented by bars that are drawn to an appropriate length using a scale along one of the two axes.

You’ve done an experiment. You’ve gathered the data. What’s the point of graphing? There are several reasons you may want to turn your data table into a graph.

Graphs make data visual. When you look at a data table, it can be hard to see the relationships between your variables. Graphs make it easier to see those relationships.

Graphs give a quick summary of your data. You may have to look over a data table for a long time before you understand patterns. A graph allows you to quickly draw a conclusion.

Graphs allow you to make estimates about data you didn’t gather. Let’s say you measured the height of a plant on Monday and Wednesday, but you want to know about how tall it was on Tuesday. A graph would help you estimate that data. A graph can also help you predict future data.

The first graph introduced in this packet is the bar graph:

Bar Graph

A **bar graph** is used when data is not continuous. They are usually used to compare data between groups.

Figure 1.3 shows a data table. *Figure 1.4* shows a bar graph using the same data.

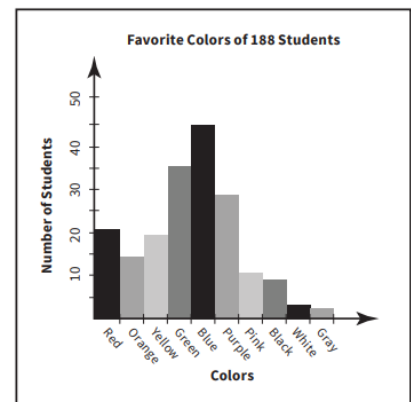


What is the most popular color among these 188 students?

Figure 1.3

Favorite Color	# of Students
Red	21
Orange	14
Yellow	19
Green	36
Blue	45
Purple	28
Pink	11
Black	9
White	3
Gray	2

Figure 1.4



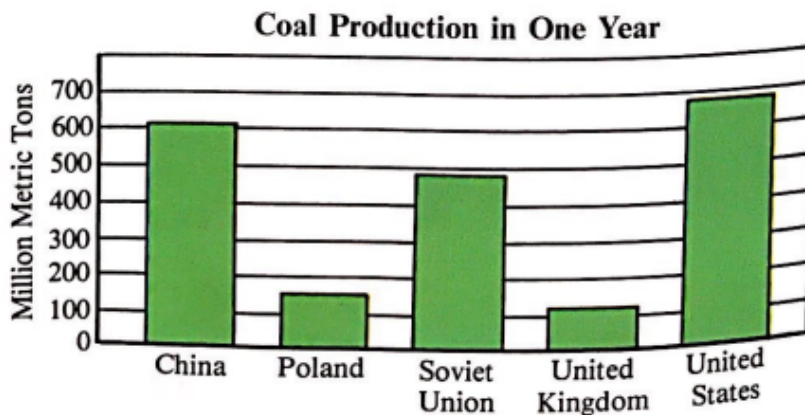
***Please check the answer key before moving forward.

EXAMPLE 1 Make a bar graph to illustrate the data in this table.

Coal Production in One Year	
Country	Million Metric Tons
China	620
Poland	163
Soviet Union	487
United Kingdom	128
United States	698

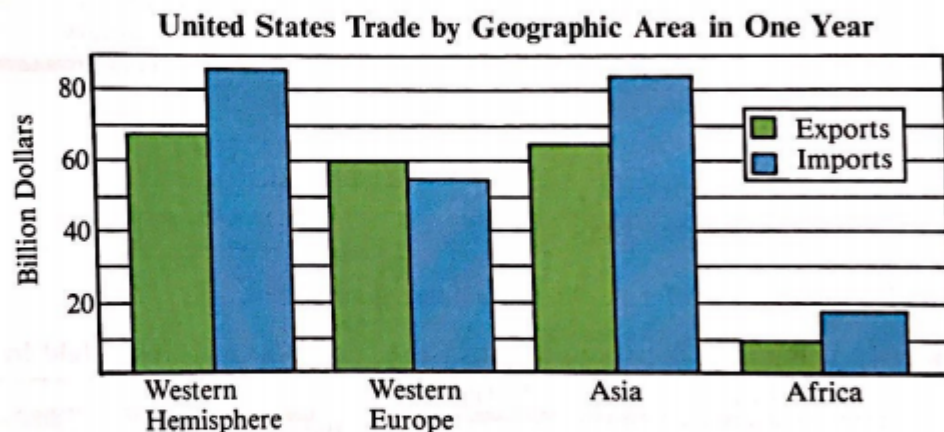
Solution

Draw perpendicular axes. Mark off regular intervals on the vertical axis. Since all the numbers in the table are hundreds, start at zero and label each interval in increments of 100. Label the horizontal axis with the names of the countries. Then, using the vertical axis as a scale, draw a bar of the appropriate height for each country.



There are many kinds of bar graphs. In a **double bar graph**, two bars may be used to display two related types of data at the same time. A **legend** is usually placed on the graph to identify the type of data that each bar represents. Example 2, below, illustrates how we interpret a double bar graph.

- EXAMPLE 2** Using the double bar graph below, determine the following.
- The approximate value of United States exports to Africa
 - The approximate value of United States imports from Asia



Solution

- From the colors in the legend on the graph you see that, in each pair of bars on the graph, the bar at the left represents exports. Locate *Africa* on the horizontal axis. The top of the bar at the left of this pair lies at about 10 on the scale of the vertical axis. These numbers represent billion dollars, so we conclude that the value of United States exports to Africa was about 10 billion dollars.
- The bar at the right of each pair represents imports. For Asia, the top of this bar lies about halfway between 80 and 90 on the vertical scale. Thus the value of United States imports from Asia was about 85 billion dollars.

Any questions: Patrick.Franzese@greatheartsnorthenoaks.org or Melisa.Walters@greatheartsnorthenoaks.org

Exercises for Tuesday, April 28, 2020

Written Exercises Page 442 #1-14 all

Wednesday, April 29, 2020

Pre-Algebra: Chapter 12

Lesson: Line Graphs and Pie Charts

Objective:

1. Create a line graph to illustrate the data in a table.
2. Create pie charts to compare parts to a whole.

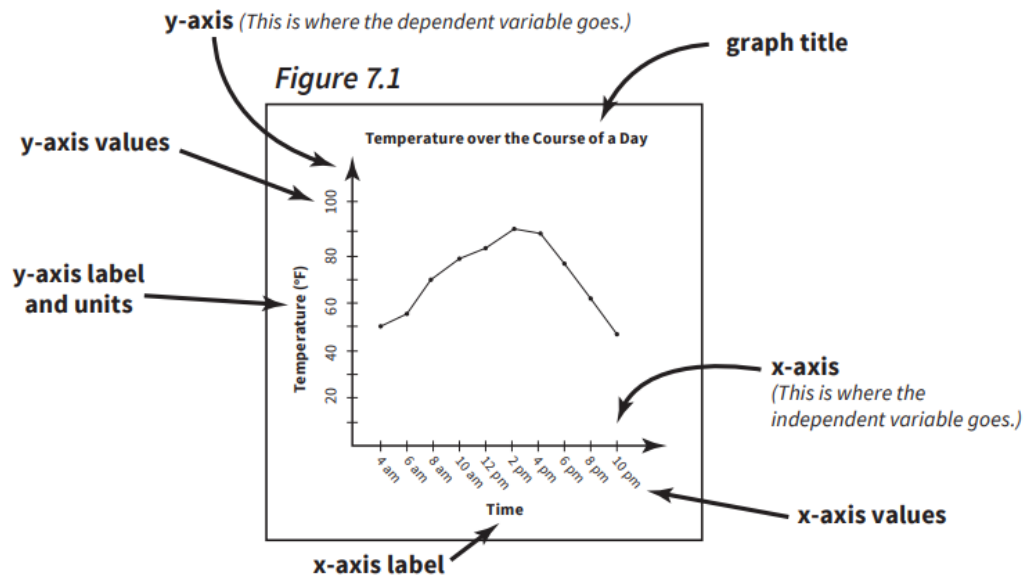
Lesson:

When you need to show how data vary over a period of time, it is sometimes better to use a **line graph** than a bar graph. In a line graph, the given data are represented by points plotted on a set of coordinate axes, and the points are connected by line segments. The resulting graph clearly displays changes such as increases and decreases and may make it easier to analyzed the data.

What are parts of a graph?

Graphs need to have a few main parts so that we can understand them. They include:

- ▶ A graph title
- ▶ An *x*-axis
- ▶ *x*-axis values
- ▶ An *x*-axis label and units
- ▶ A *y*-axis
- ▶ *y*-axis values
- ▶ A *y*-axis label and units



Line Graph

A **line graph** shows a *continuous* relationship. (That means there is data between data points.) Line graphs are frequently used to track changes over a period of time.

Figure 1.1 shows a data table. Figure 1.2 shows a line graph using the same data.

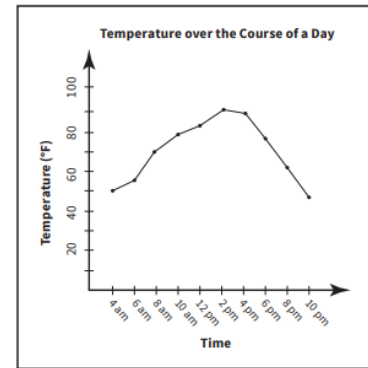


What happens to the temperature over the course of the day?

Figure 1.1

Time	Temperature
4 am	50°F
6 am	54°F
8 am	70°F
10 am	79°F
12 pm	83°F
2 pm	91°F
4 pm	89°F
6 pm	78°F
8 pm	62°F
10 pm	47°F

Figure 1.2



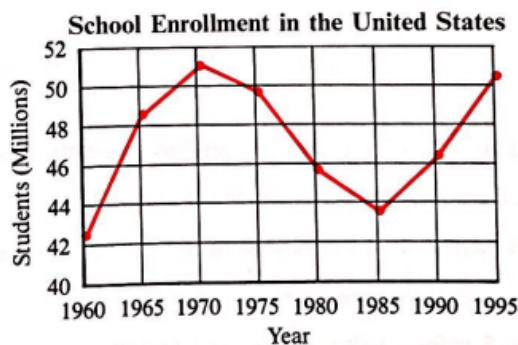
***Please check the answer key before moving forward.

EXAMPLE 1 Make a line graph to illustrate the data in this table.

School Enrollment in the United States								
Year	1960	1965	1970	1975	1980	1985	1990	1995
Students (Millions)	42.2	48.5	51.3	49.8	45.8	43.7	46.1	50.5

Solution

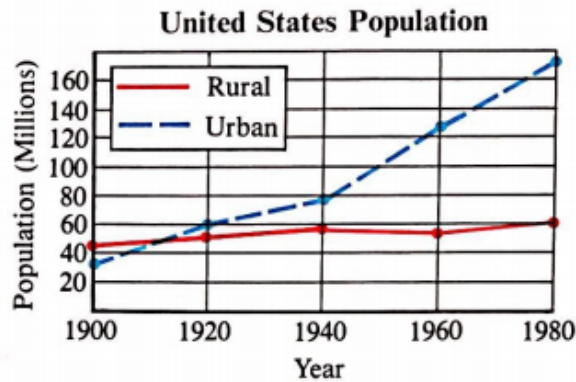
Mark off regular intervals on a set of coordinate axes. Label the horizontal axis with the years listed on the table. To choose a scale for the data, notice that the least number is 42.2 and the greatest number is 51.3. Therefore, it is sufficient to label the vertical axis in increments of 2 from 40 to 52. Now consider the data in the table as ordered pairs: (1960, 42.2), (1965, 48.5), (1970, 51.3), and so on. Plot these points on the set of coordinate axes and use line segments to join these points in order from left to right.



Different types of line graphs are used depending on the purpose of graphing the data. A **double line graph** is often used when the purpose is to make comparisons between two groups of data. Example 2 on the following page illustrates how we interpret double line graphs.

EXAMPLE 2 Using the double line graph below, answer the following.

- Approximately how great were the rural and urban populations of the United States in 1960?
- In what year were the rural and urban populations of the United States approximately equal?



Solution

- The solid line represents the rural population and the dashed line represents the urban population. Locate the points along these lines that have 1960 as their horizontal coordinate. Using the vertical coordinates of these points, you see that the rural population was about 50 million and the urban population was about 125 million.
- The solid and dashed lines intersect at a point with a horizontal coordinate near 1915. Therefore, the rural and urban populations were approximately equal in the year 1915.

Pie Chart

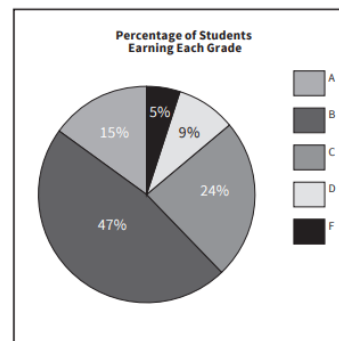
A **pie chart** is used for comparing parts of a whole. It does not show changes over time.

Figure 1.5 shows a data table. Figure 1.6 shows a pie chart using the same data.

Figure 1.5

Grade	% of Students
A	15%
B	47%
C	24%
D	9%
F	5%

Figure 1.6



What total percentage of students earned an A or a B?

***Please check the answer key before moving forward.

Exercises for Wednesday, April 29, 2020

Written Exercises Page 447-448 #1-11 All **and** Review Exercises Page 448 #1-6 All

Thursday, April 30, 2020

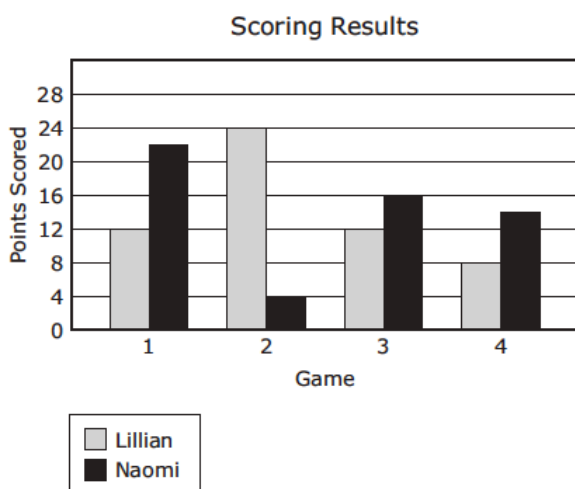
Pre-Algebra: Chapter 12

Lesson: More Practice recommended by TEKS

Objective: Demonstrate proficiency in solving problems that involve bar graphs and pie charts.**Lesson:**

While we are unfortunately unable to demonstrate our mastery of concepts we are studying on the STAAR test this year, we can nonetheless use questions from previous years to do so. Below are 20 problems that relate to the previous days lesson, the first 12 of which are from previous STAAR tests. Note, we understand that showing work will not be possible on a couple of questions due to the nature of what is being asked. However, for the majority of questions you should show you work to indicate how you arrived at the answer. If you do not know how to do an answer, contact us via e-mail or attend Guided Instruction via Zoom!

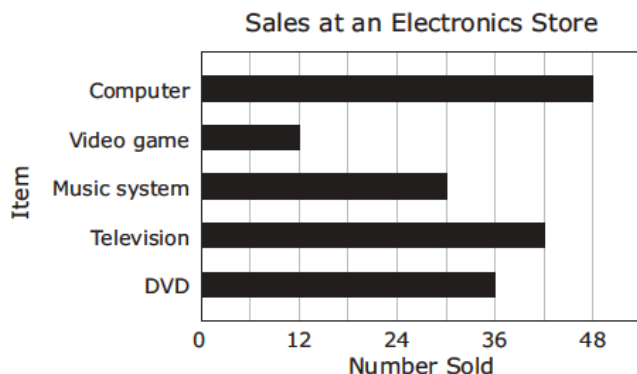
- 1** The number of points scored by Lillian and Naomi during four basketball games is shown in the graph below.



Which statement is best supported by the information in the graph?

- A** In Game 1 the number of points scored by Lillian was more than half the number of points scored by Naomi.
- B** The total number of points scored by Lillian and Naomi in Game 4 was more than the number of points scored by Lillian in Game 2.
- C** In Game 4 the number of points scored by Naomi was two times the number of points scored by Lillian.
- D** The total number of points scored by Lillian and Naomi in Game 3 was seven times the number of points scored by Lillian in Game 2.

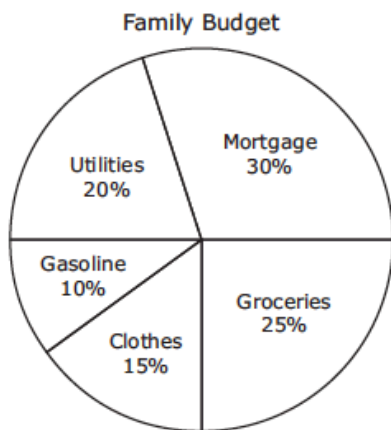
2 The graph below shows the number of items sold at an electronics store one weekend.



Which statement is best supported by the information in the graph?

- F The number of video games sold was $\frac{1}{3}$ of the number of computers sold.
- G The number of music systems sold was 36 more than the number of video games sold.
- H The number of televisions sold was 12 more than the number of DVDs sold.
- J The number of televisions sold was $\frac{1}{4}$ of the total number of items sold.

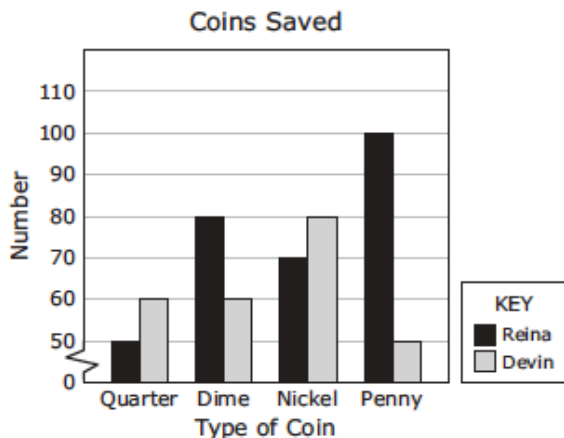
3 The circle graph below shows the percentages of a family budget used for different monthly expenses.



Which statement is supported by the data in the graph?

- F The amount of money budgeted for utilities and gasoline combined is less than the amount budgeted for the mortgage.
- G The amount of money budgeted for the mortgage is half the amount budgeted for clothes.
- H The amount of money budgeted for groceries and clothes combined is twice the amount budgeted for utilities.
- J The amount of money budgeted for gasoline and clothes combined is greater than the amount budgeted for groceries.

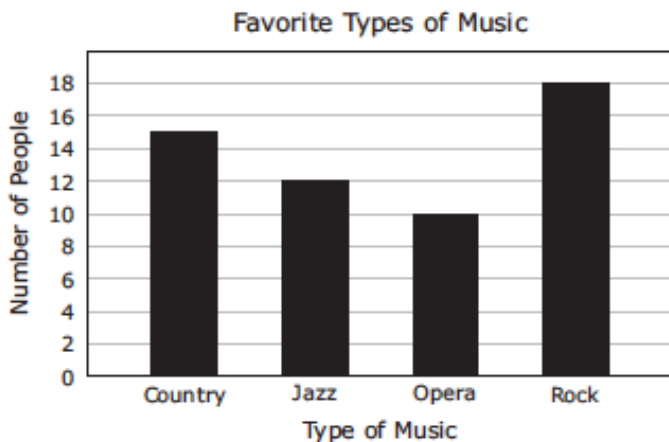
4 The graph below shows the numbers and types of coins Reina and Devin have saved.



Which statement is best supported by the information in the graph?

- F The combined value of all the coins Reina has saved is less than \$10.
- G The value of the dimes Reina has saved is greater than the value of the nickels Devin has saved.
- H The combined value of all the coins Devin has saved is less than \$25.
- J The value of the quarters Devin has saved is twice the value of the quarters Reina has saved.

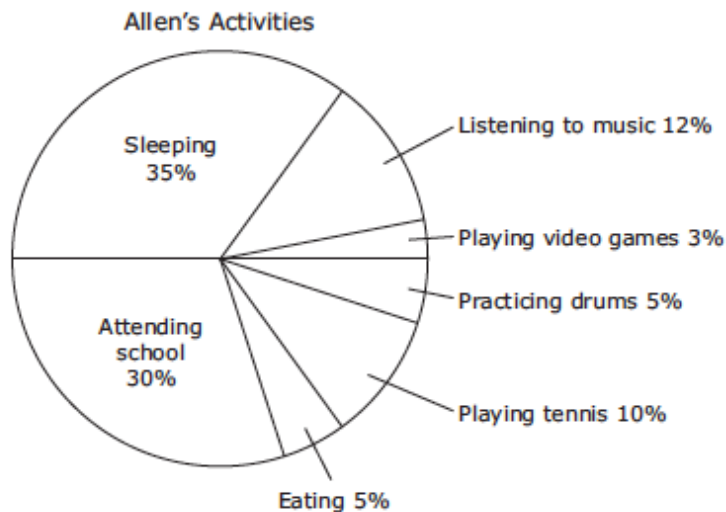
5 Maribel surveyed 55 people to find out their favorite types of music. The results are shown in the bar graph.



Based on the information in the graph, which types of music were chosen by 40% of the people surveyed?

- A Country and opera
- B Jazz and opera
- C Jazz, opera, and rock
- D Country, jazz, and rock

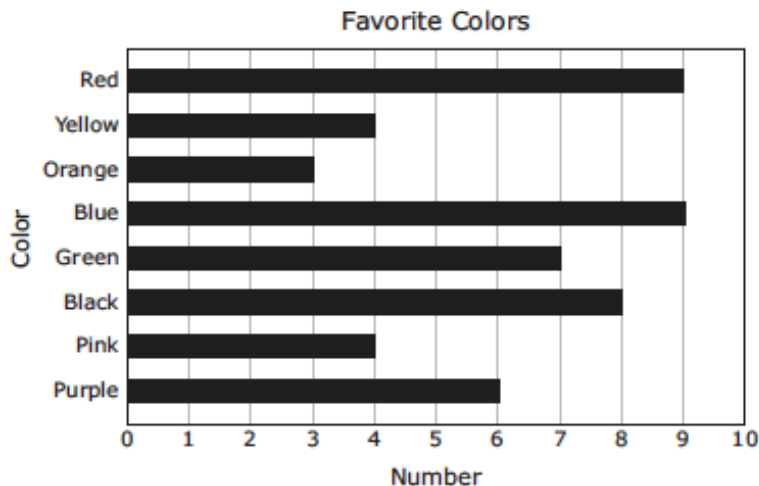
6 The circle graph shows Allen’s activities during 24 hours.



How much more time in hours did Allen spend listening to music than playing tennis?

- F 2.88 hours
- G 0.48 hour
- H 2.40 hours
- J 0.12 hour

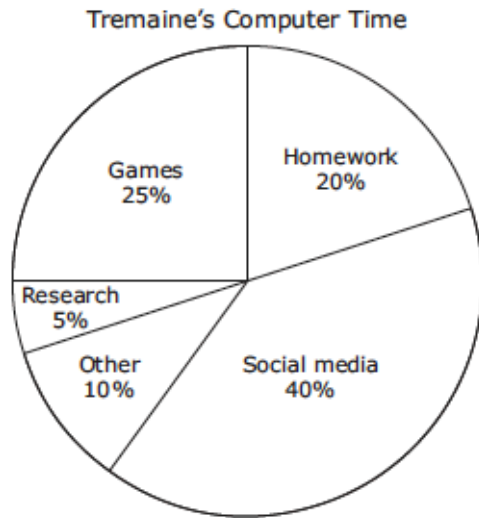
7 The graph shows the favorite colors chosen by some middle school students.



Which statement is supported by the information in the graph?

- A Fewer than 30% of the students chose red, yellow, or orange as their favorite color.
- B More than $\frac{1}{10}$ of the students chose pink as their favorite color.
- C Exactly 18% of the students chose blue as their favorite color.
- D Exactly $\frac{2}{5}$ of the students chose green, black, or purple as their favorite color.

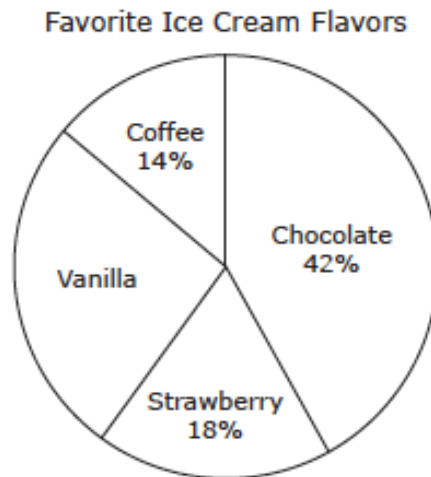
8 The circle graph shows how Tremaine divided his time on the computer last week.



Tremaine used the computer a total of 30 hours last week. How many more hours did Tremaine use the computer to play games than to do research?

- F 6 hours
- G 20 hours
- H 7.5 hours
- J 1.5 hours

9 Ursula surveyed 50 classmates about their favorite ice cream flavors. Each classmate chose one flavor. The results are shown in the circle graph.

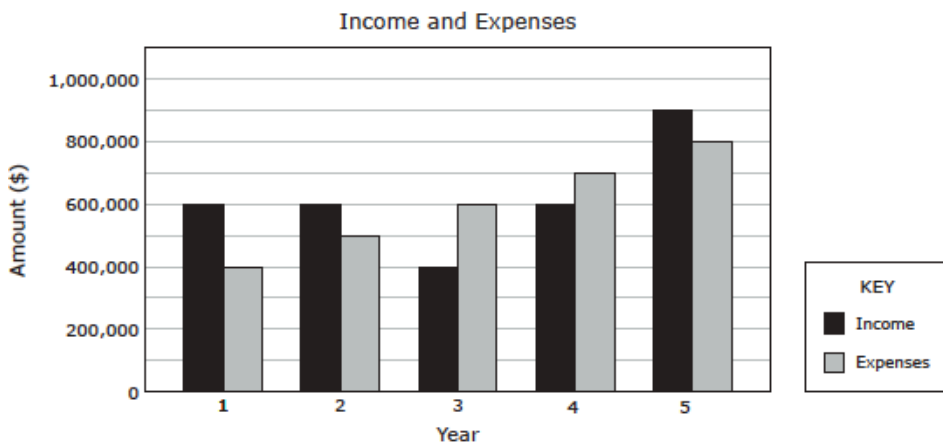


How many more of Ursula's classmates chose chocolate than chose vanilla?

- F 8
- G 6
- H 34
- J 16

10

The bar graph shows a company's income and expenses over the last 5 years.

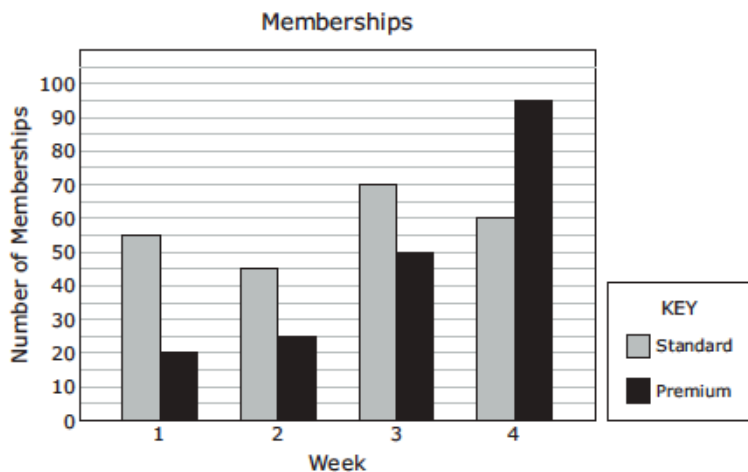


Which statement is supported by the information in the graph?

- A Expenses have increased \$200,000 each year over the last 5 years.
- B The income in Year 5 was twice the income in Year 1.
- C The combined income in Years 1, 2, and 3 was equal to the combined expenses in Years 1, 2, and 3.
- D The combined expenses in Years 3 and 4 were \$300,000 more than the combined income in Years 3 and 4.

11

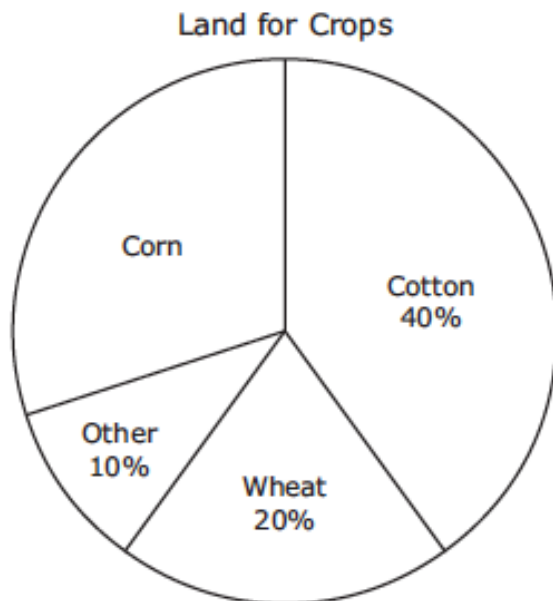
A club sold standard and premium memberships. The graph shows the number of each type of membership sold over the last four weeks.



Which statement is supported by the information in the graph?

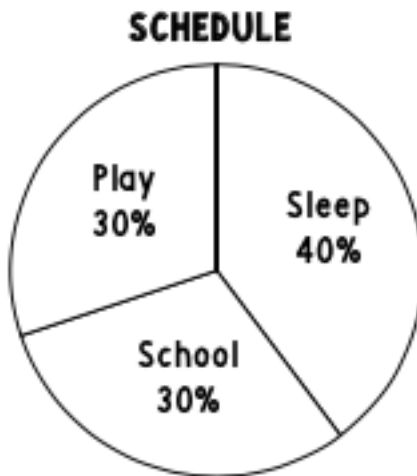
- F The number of premium memberships sold during Week 4 was 75% more than the number of premium memberships sold during Week 1.
- G The total number of memberships sold during Week 1 was equal to the total number of memberships sold during Week 2.
- H The number of premium memberships sold during Week 3 was 2 times the number of premium memberships sold during Week 2.
- J The total number of memberships sold during Week 4 was 35 less than the total number of memberships sold during Week 3.

12 A farmer plants crops on 48 acres of land. The circle graph shows the percentages of land used for some of the different types of crops.

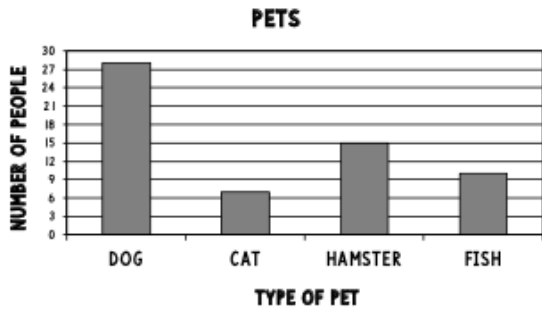


Based on the circle graph, how many acres of land are used for corn?

13 2. The circle graph below depicts a breakdown of the way Michael spends his time. About how many hours of sleep does Michael get in one week?



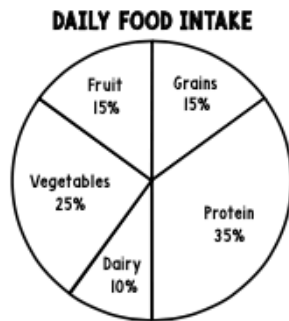
14 4. Sixty students in the freshman class completed a survey about their favorite pet. The results are shown in the bar graph below. Based on the data, which of the following statements is **not** true?



- F. Dogs were the most preferred pet.
- G. The number of freshmen who prefer cats, hamsters, and fish is more than those who prefer dogs.
- H. One-fourth of the freshmen surveyed prefer hamsters.
- J. The number of freshmen who prefer fish and hamsters is the same as those who prefer dogs.

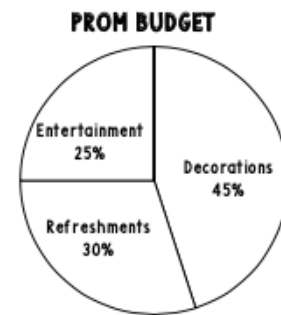
15 & 16 7. Mrs. Ramirez worked with her personal trainer to help develop a nutrition plan. The circle graph shows the recommended percentages for her daily intake. If she will start week 1 eating 1,800 calories, then how many should be from proteins?

- A. 450
- B. 350
- C. 630
- D. 270

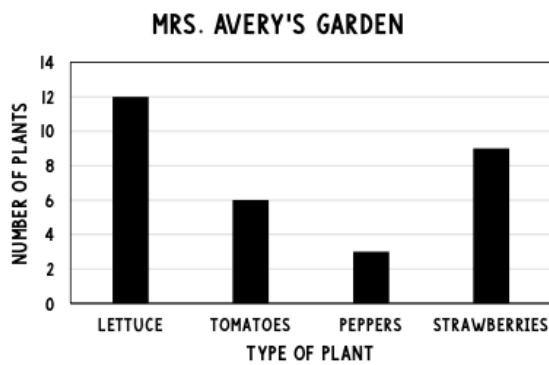


8. The student council is planning for the prom. They have broken down their expenses in the graph below. If they decide they will spend \$1,200 on refreshments, then what is their total budget?

- F. \$3,600
- G. \$6,000
- H. \$7,200
- J. \$4,000

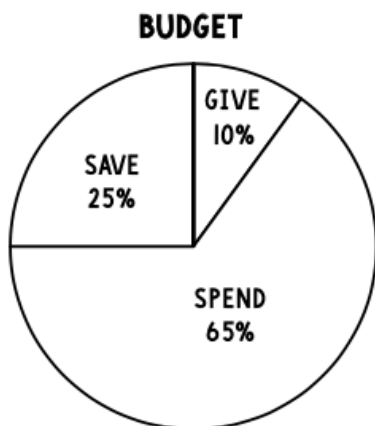


17 Mrs. Avery makes note of the different types of plants in her garden and creates a bar graph to display the data.



- #1: There are one-fourth the number of peppers as there are lettuce plants.
- #2: The number of lettuce and pepper plants is equal to the number of tomato and strawberry plants.
- #3: Fifty percent of the plants are lettuce plants.

18 Mr. Thompson teaches his son to give, save, and spend his money. His son receives \$120 for his birthday.



#1: He will save \$20 of the birthday money.

#2: He will give \$12 of the birthday money.

#3: He will spend \$78 of the birthday money.

19 Christina is working to spend her time more wisely. She decides to break down the 24 hours in her day in a circle graph.



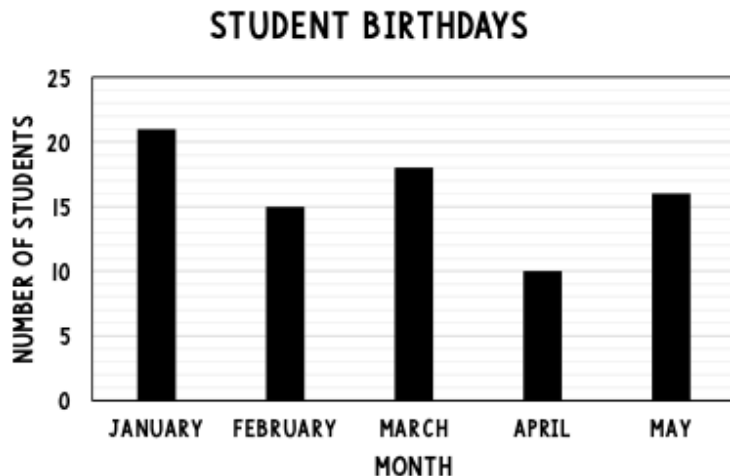
#1: Christina spends half of her time on chores, sleep, and other activities.

#2: Christina spends over a quarter of her time on chores and hobbies.

#3: Christina spends over 60% of her time working and sleeping.

20

The school counselor graphed the birthdays of the students in the first five months of the year and chose a bar graph to display the data.



#1: Less than one-fourth of the students were born in January.

#2: Less than 50% of the students were born in March and May.

#3: The number of students born in March, April, and May is greater than the number of students born in January and February.

Friday, May 1, 2020

Pre-Algebra: Chapter 12

Lesson: Graphs and Review

Objective:

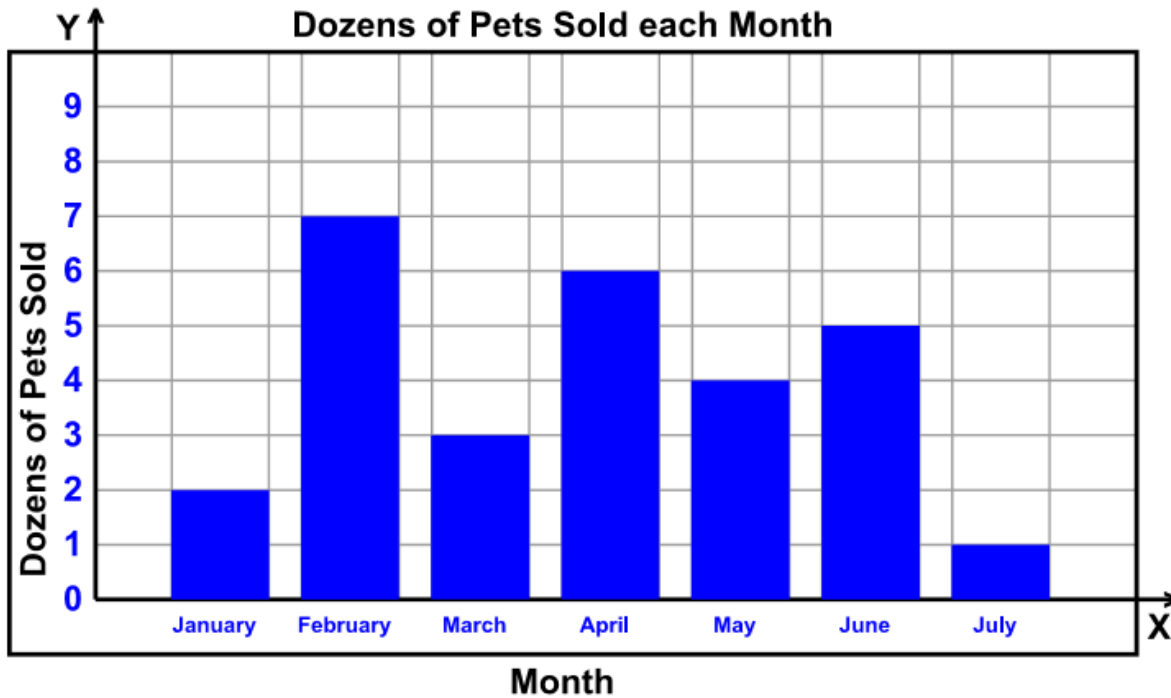
1. Interpret Data on Line, Bar and Pie Graphs
2. Review Prior Concepts

Lesson:

There are three parts to this lesson:

1. Complete the following 4 problems and check your answer.
2. Review for the quiz and *take the quiz on page 36 of this packet*. This is a very short quiz!
3. Complete Problems 1-8, Page 437 (Found in the Cumulative Review, Chapters 1-11 Section)

Answer the following questions based off the bar graph.



How many pets were sold in February and July combined? _____

How many more pets were sold in February than in July? _____

How many pets were sold in June, January, and April? _____

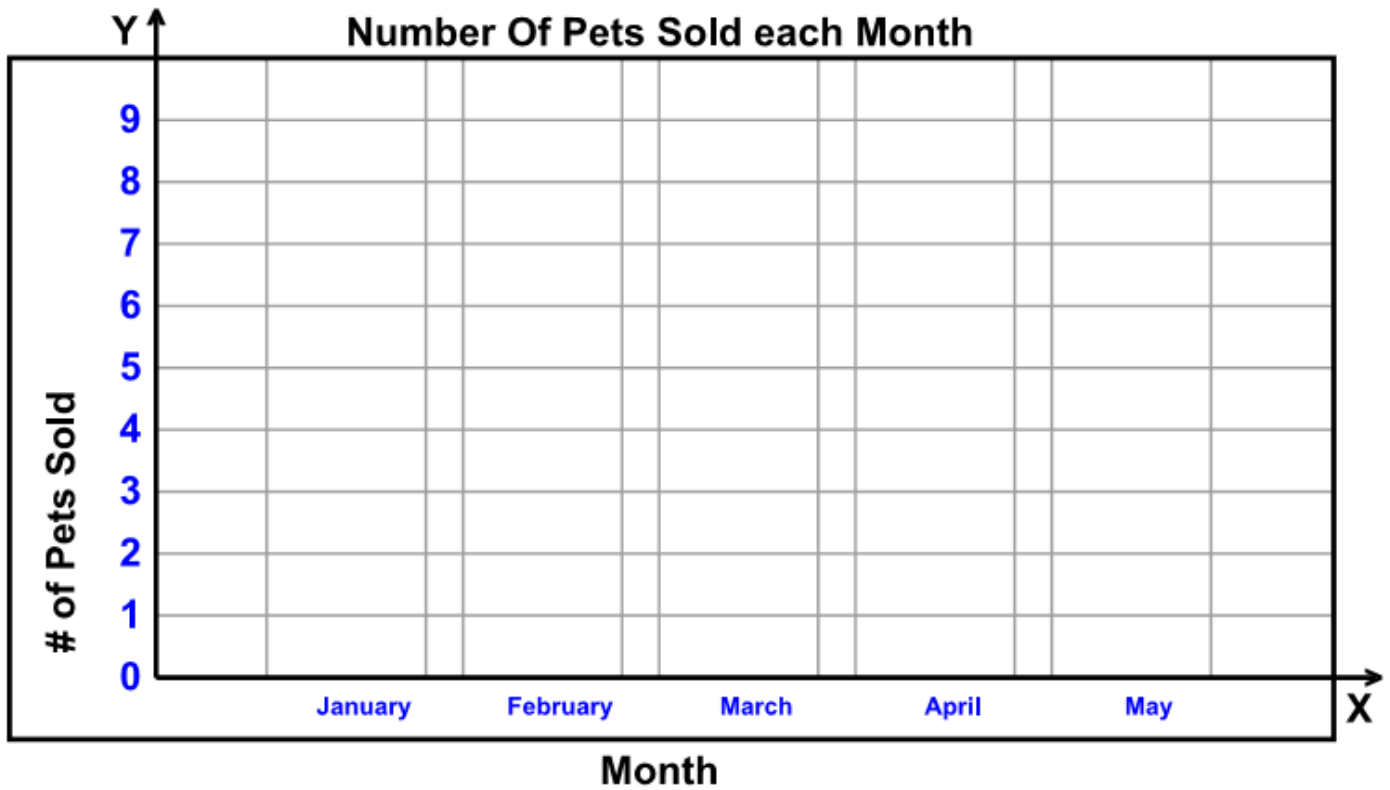
In August, twice the number of pets were sold than in May.
How many pets were sold in August? _____

Were more pets sold in January or in April? _____

Bar Graph Comprehension:

Graph the given information as a bar graph.

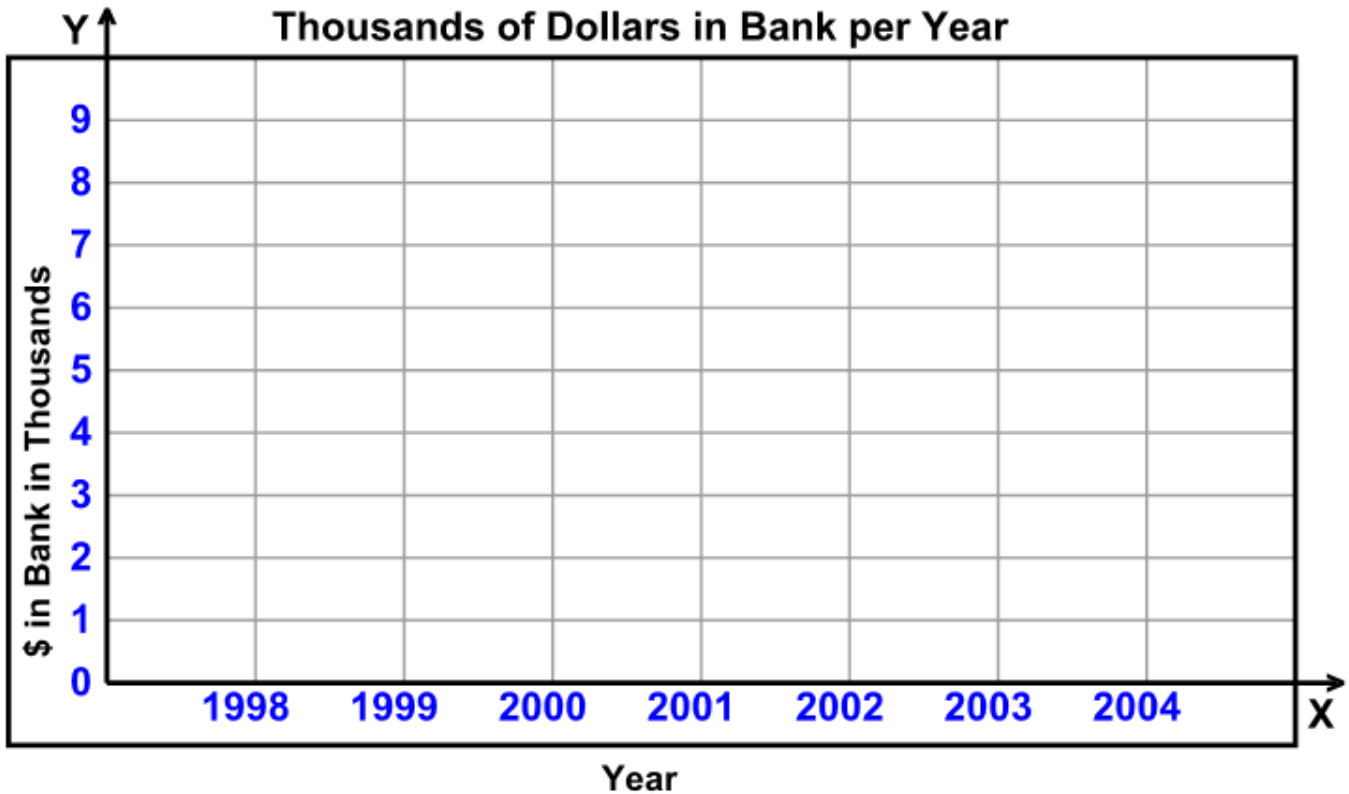
Month	# of Pets Sold
January	8
February	5
March	2
April	6
May	4



Single Line Graph Comprehension:

Graph the given information as a line graph.

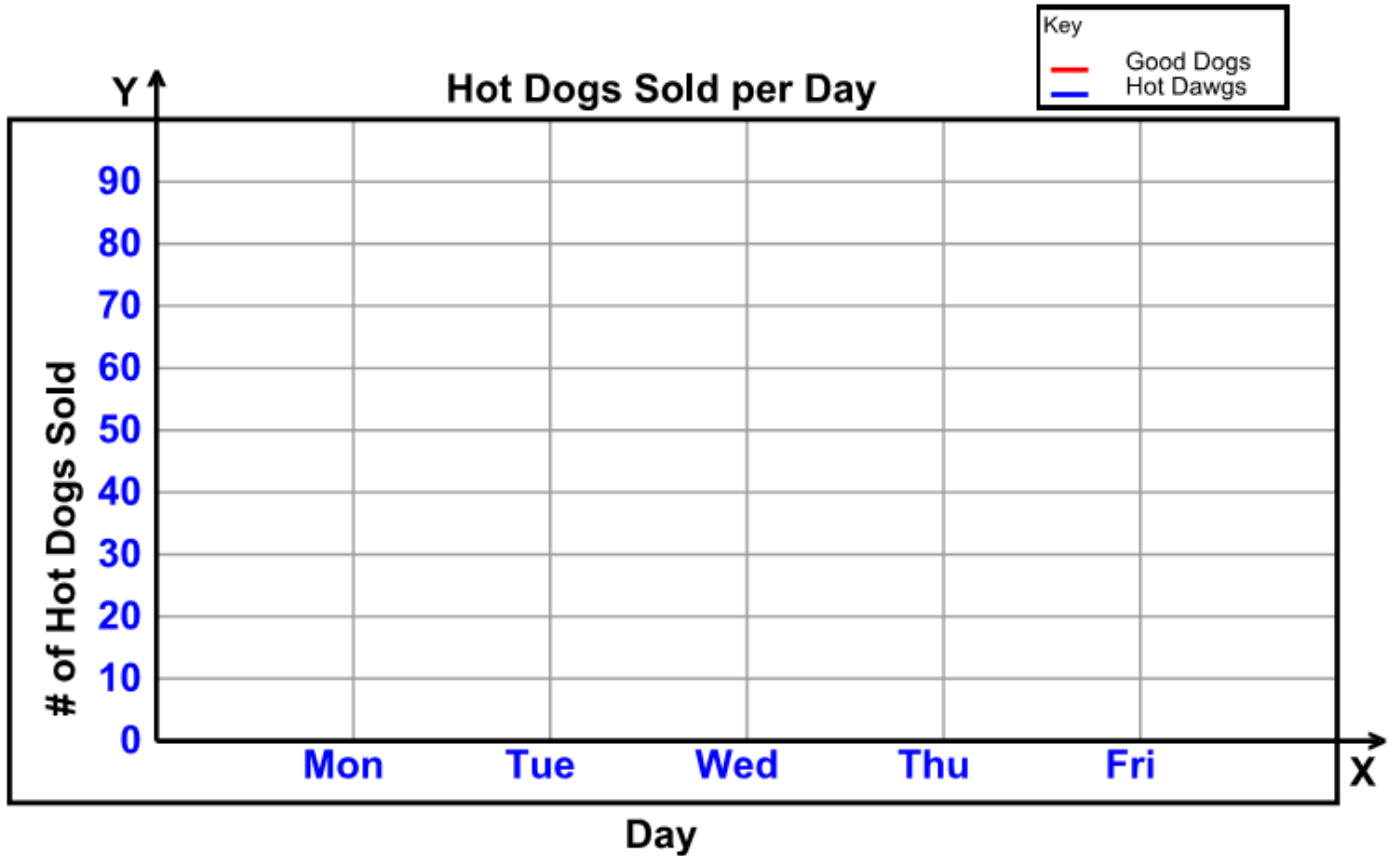
Year	\$ in Bank
1998	7000
1999	3000
2000	6000
2001	7000
2002	4000
2003	2000
2004	4000



Double Line Graph Comprehension:

Graph the given information as a line graph.

Day	# of Hot Dogs Sold	
	Good Dogs	Hot Dawgs
Mon	50	30
Tue	80	70
Wed	60	50
Thu	30	60
Fri	70	40



ANSWER KEY

Answers to Exercises for Monday, April 27, 2020

Sample versus Population:

1. B 2. A 3. D 4. C 5. D

Great Hearts middle school conducted a survey of randomly selected 6th graders to determine which elective they were most likely to participate in. The results are shown in the table below:

	SPANISH	THEATER	ART
6 TH GRADE	14	20	6

- a. How many students were surveyed?
40 students
- b. What percentage of students surveyed selected Spanish as their elective of choice?
35% selected Spanish
- c. The school estimates that there are actually 350 students in the 6th grade. Using this sample, about how many students can be expected to sign up for art?
about 53 students
- d. The school estimates that there are actually 350 students in the 6th grade. Using this sample, how many students can be expected to sign up for theater?
175 students
- e. The school decides to drop any elective in which less than 10% of the population has signed up for. Miguel says that since only 6 people signed up for art, it should be dropped. Explain why this is or is not correct.
Miguel is not correct. Six students out of 40 signed up for art, which is 15% of the sample.
We can infer that based on the sample, the population will have about 15% of students sign up for art.
- f. Mark each of the following statements as true or false based on the data.
false Over half of the students at Eastside Middle School will select theater for their elective.
true Combined, the Spanish and art classes account for 50% of the elective results.
true Out of the 350 students at Eastside Middle School, at least 120 will sign up for Spanish.

Page 444 • REVIEW EXERCISES

1. a. $18\% = 0.18$ b. $0.18 = \frac{18}{100} = \frac{9}{50}$

2. a. $1.25\% = 0.0125$ b. $0.0125 = \frac{125}{10,000} = \frac{1}{80}$

3. a. $9\% = 0.09$ b. $0.09 = \frac{9}{100}$

4. a. $0.4\% = 0.004$ b. $0.004 = \frac{4}{1000} = \frac{1}{250}$

5. a. $82.5\% = 0.825$ b. $0.825 = \frac{825}{1000} = \frac{33}{40}$

6. a. $12\frac{1}{2}\% = 0.125$ b. $0.125 = \frac{125}{1000} = \frac{1}{8}$

7. a. $33\frac{1}{3}\% = 0.\bar{3}$ b. $33\frac{1}{3}\% = \frac{33\frac{1}{3}}{100} = 33\frac{1}{3} \div 100 = \frac{100}{3} \times \frac{1}{100} = \frac{1}{3}$

8. a. $0.08\% = 0.0008$ b. $0.0008 = \frac{8}{10,000} = \frac{1}{1250}$

9. a. $25\frac{1}{2}\% = 0.255$ b. $0.255 = \frac{255}{1000} = \frac{51}{200}$

10. a. $16\frac{2}{3}\% = 0.1\bar{6}$ b. $16\frac{2}{3}\% = \frac{16\frac{2}{3}}{100} = 16\frac{2}{3} \div 100 = \frac{50}{3} \times \frac{1}{100} = \frac{1}{6}$

Answers to Exercises for Tuesday, April 28, 2020

Try it! answers

Bar Graph

A **bar graph** is used when data is not continuous. They are usually used to compare data between groups.

Figure 1.3 shows a data table. *Figure 1.4* shows a bar graph using the same data.



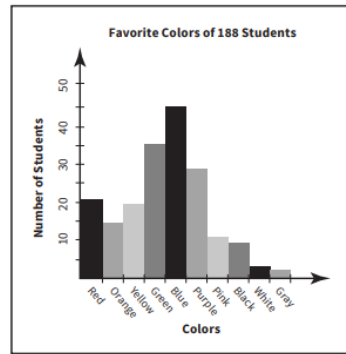
What is the most popular color among these 188 students?

blue

Figure 1.3

Favorite Color	# of Students
Red	21
Orange	14
Yellow	19
Green	36
Blue	45
Purple	28
Pink	11
Black	9
White	3
Gray	2

Figure 1.4



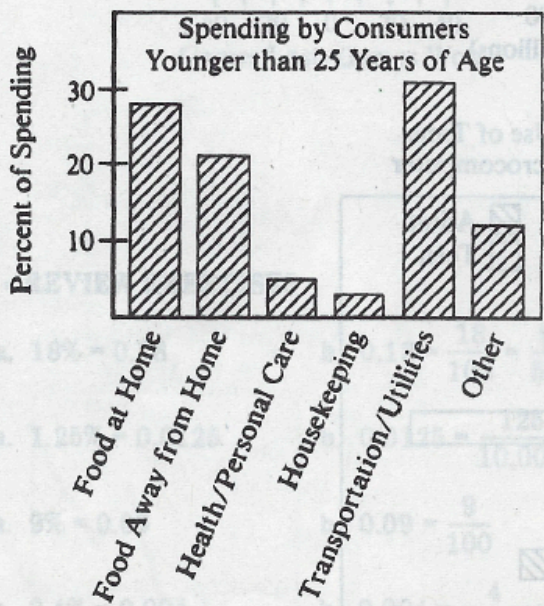
Written Exercises Page 442 #1-14 all

Pages 442-444 • WRITTEN EXERCISES

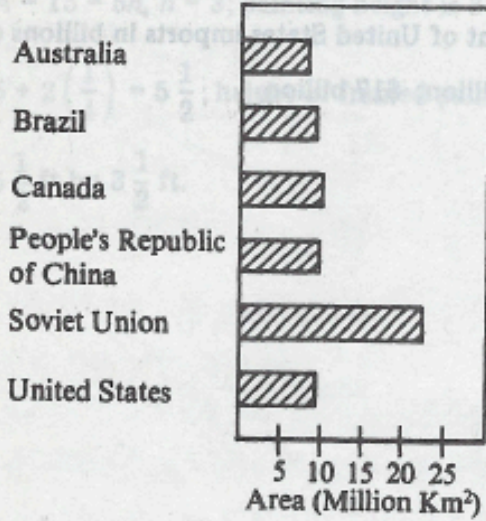
- A**
1. percent of students employed
 2. percent of seniors employed
 3. babysitting; store sales
 4. store sales and food service
 5. babysitting
 6. about 8%

In Exercises 7-12, graphs may vary slightly.

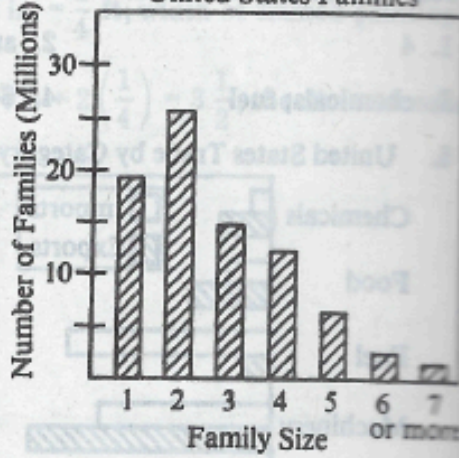
7.



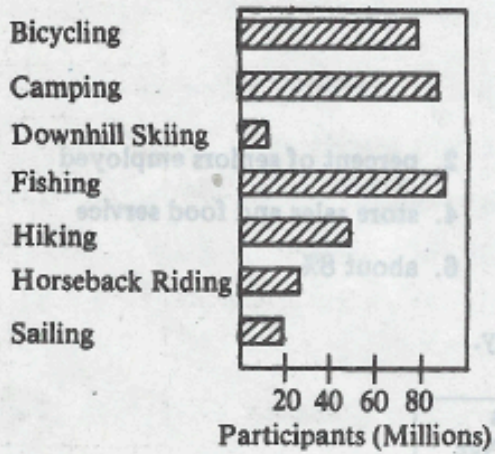
8. World's Largest Countries



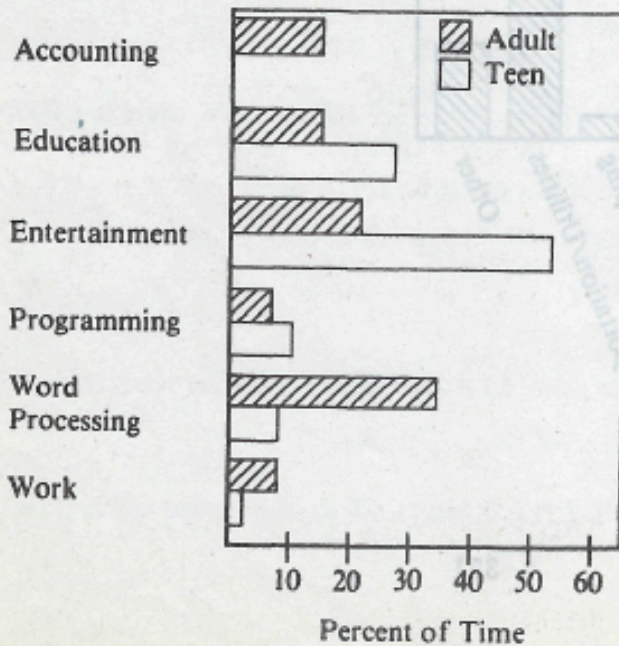
9. United States Families



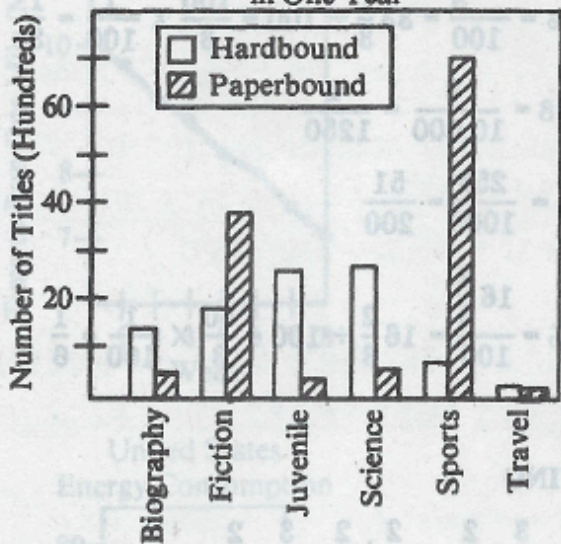
10. Outdoor Recreation



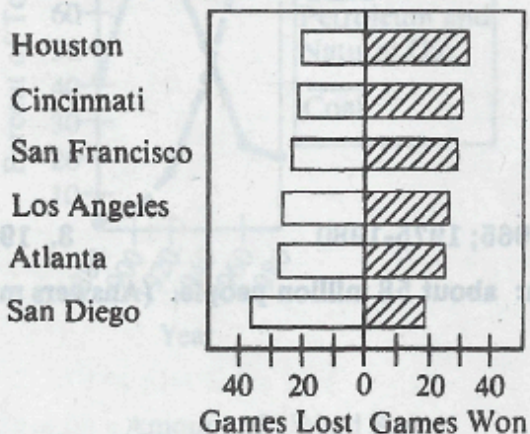
11. Family Use of Time on the Microcomputer



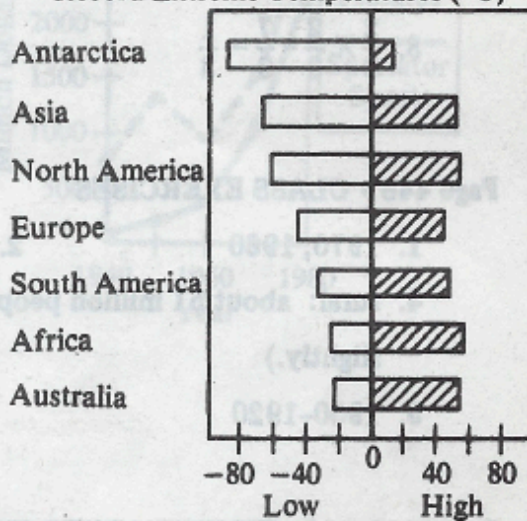
12. New Book Titles Published in One Year



C 13. National League—Western Division



14. Record Extreme Temperatures (°C)



Answers to Exercises for Wednesday, April 29, 2020

Line Graph

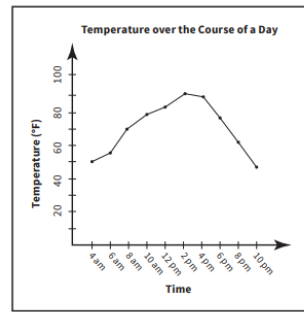
A **line graph** shows a *continuous* relationship. (That means there is data between data points.) Line graphs are frequently used to track changes over a period of time.

Figure 1.1 shows a data table. Figure 1.2 shows a line graph using the same data.

Figure 1.1

Time	Temperature
4 am	50°F
6 am	54°F
8 am	70°F
10 am	79°F
12 pm	83°F
2 pm	91°F
4 pm	89°F
6 pm	78°F
8 pm	62°F
10 pm	47°F

Figure 1.2



What happens to the temperature over the course of the day?

It increases until about 2 pm and then decreases.

Pie Chart

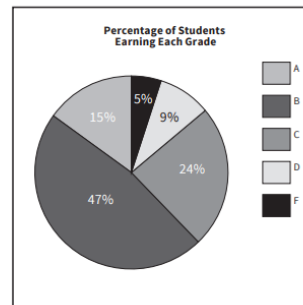
A **pie chart** is used for comparing parts of a whole. It does not show changes over time.

Figure 1.5 shows a data table. Figure 1.6 shows a pie chart using the same data.

Figure 1.5

Grade	% of Students
A	15%
B	47%
C	24%
D	9%
F	5%

Figure 1.6



What total percentage of students earned an A or a B?

62%

Written Exercises Page 447-448 #1-11 All and Review Exercises Page 448 #1-6 All

Pages 447-448 • WRITTEN EXERCISES

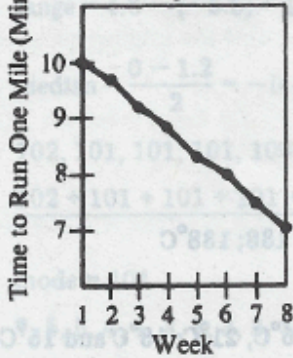
A 1. 5 P.M. 2. 9 A.M. 3. 4 P.M.-5 P.M. 4. 7 P.M.-8 P.M.

In Exercises 5-11, graphs may vary slightly.

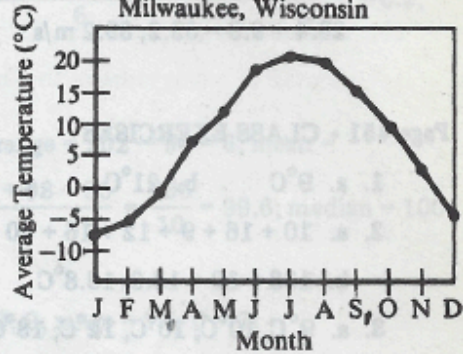
5. **United States Population**

6. **Reported Volcanic Activity in the World**

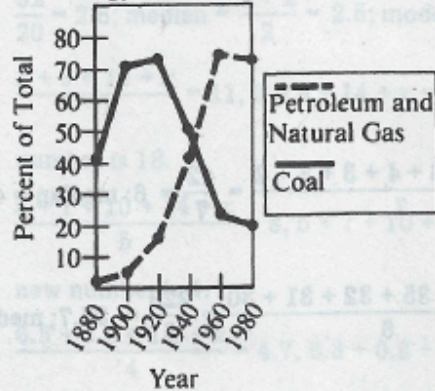
7. Running Practice



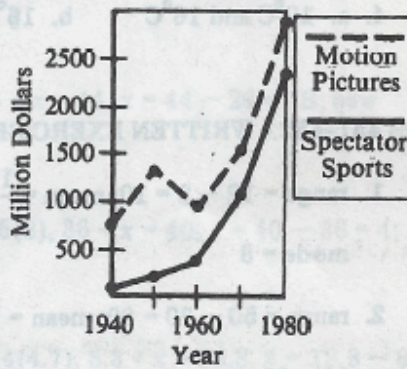
8. Normal Temperatures for Milwaukee, Wisconsin



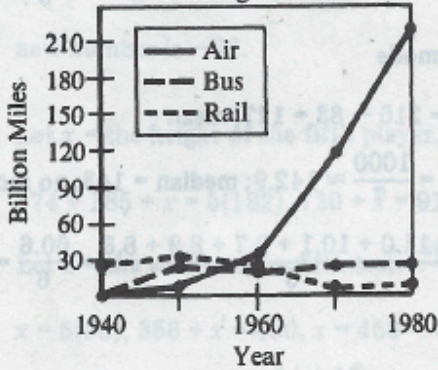
9. United States Energy Consumption



10. Money Spent on Recreation in the United States



11. Amount of United States Passenger Traffic



Page 448 • REVIEW EXERCISES

- $-2.8(6.5) = -18.2$
- $3(-2.8) - 6.5 = -8.4 - 6.5 = -14.9$
- $-(-2.8) + 6.5 = 2.8 + 6.5 = 9.3$
- $5(-2.8) - (-6.5) = -14 + 6.5 = -7.5$
- $(-2.8)^2 (6.5) = 7.84(6.5) = 50.96$
- $-(6.5)^2 - (-2.8) = -42.25 + 2.8 = -39.45$

Answers to Exercises for Thursday, April 30, 2020

1.	A	2.	J	3.	H	4.	G
5.	B	6.	G	7.	C	8.	F
9.	F	10.	D	11.	H	12.	14.4
13.	67.2	14.	J	15.	C	16.	J
17.	3	18.	1	19.	2	20.	1

Answers to Exercises for Friday, May 1, 2020

Bar Graph

Month

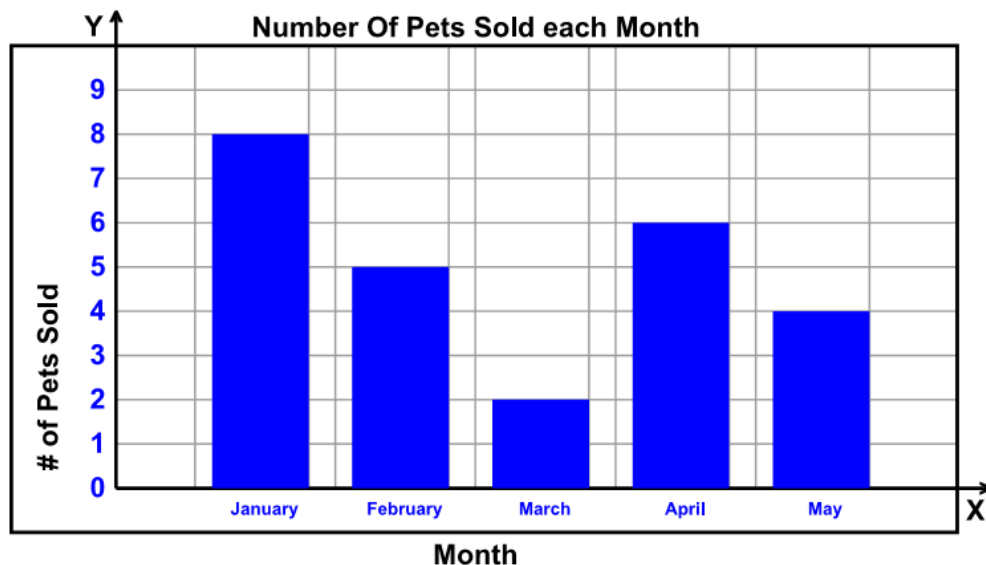
How many pets were sold in February and July combined? 96

How many more pets were sold in February than in July? 72

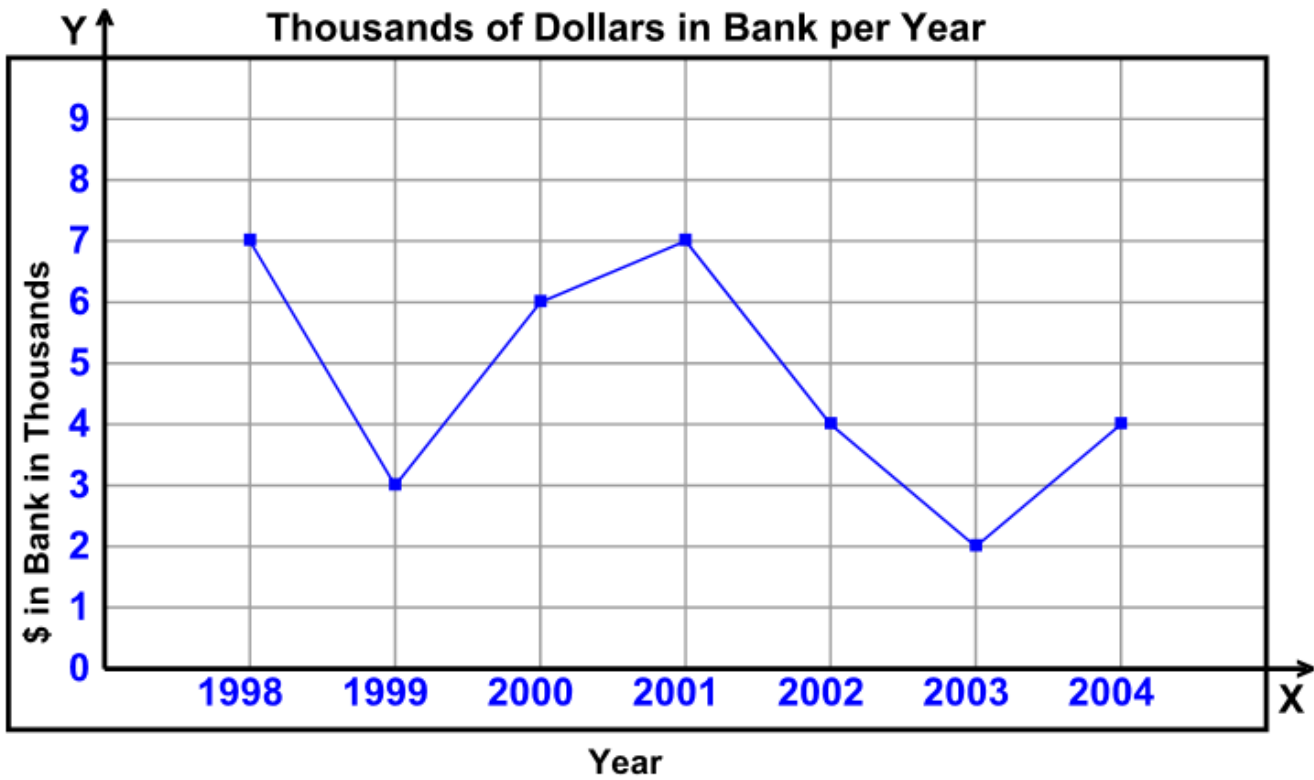
How many pets were sold in June, January, and April? 156

In August, twice the number of pets were sold than in May.
How many pets were sold in August? 96

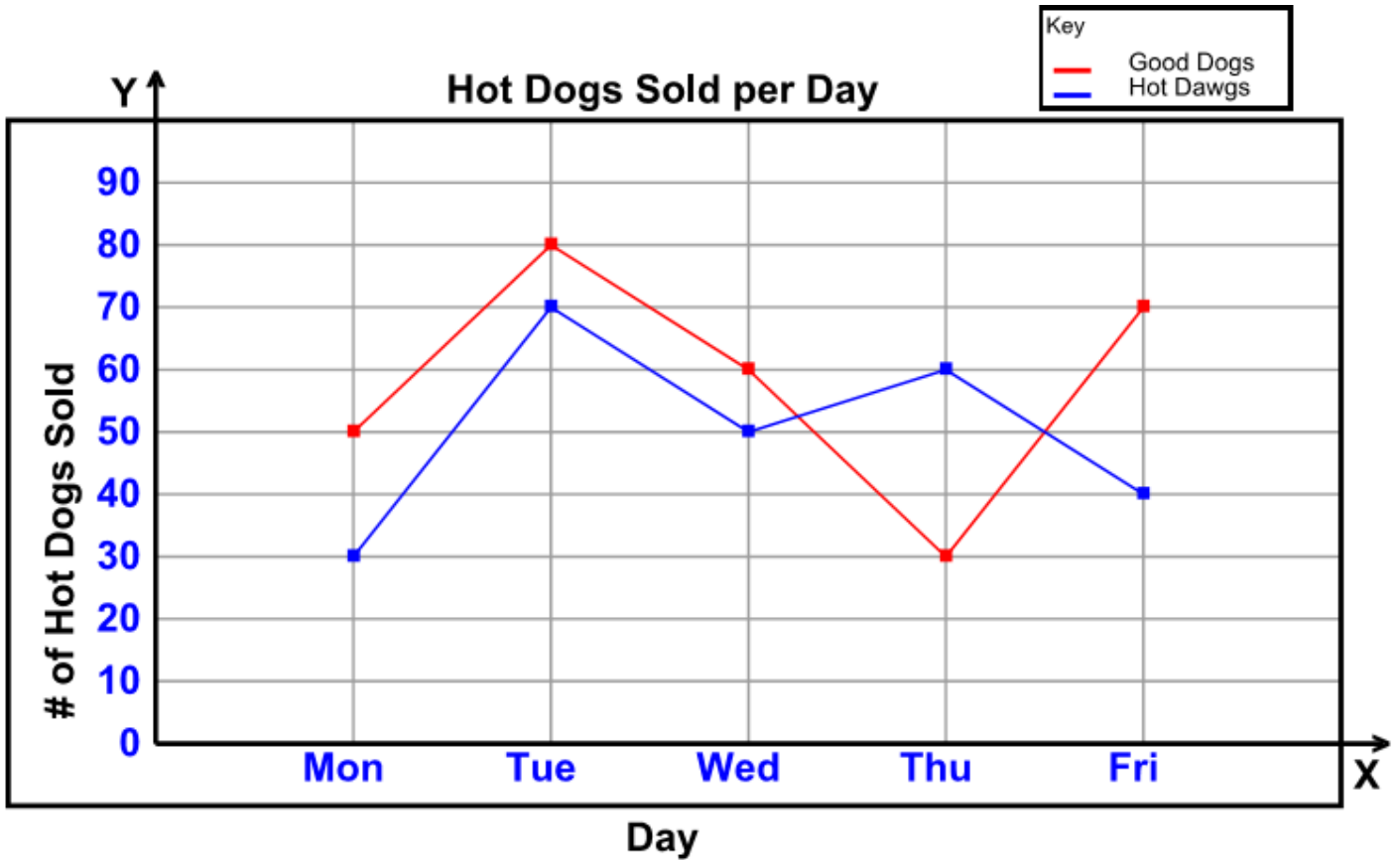
Were more pets sold in January or in April? April



Line Graph



Double Line Graph



Page 437 • CUMULATIVE REVIEW: Problems

1. $6.95 + 12.50 + 3.60 = 23.05$, $23.05 > 20$; no, she does not have enough money.

2. $24 \left(\frac{1}{4} \right) = 6$; 6 cups of water will leak.

3. $245.70 - 189 = 56.70$; $56.70 = r(189)$, $r = \frac{56.70}{189} = 0.3 = 30\%$; there is a 30% markup.

4. Let n = the number of fluorine atoms needed. $1(4) + n(-1) = 0$, $4 - n = 0$, $n = 4$;
4 fluorine atoms are needed.

5. $P(\text{girl}) = \frac{82}{160} = \frac{41}{80}$

6. Let w = the length of the other side. $54 = 2w + 2(12)$, $54 = 2w + 24$, $2w = 30$, $w = 15$;
 $A = 12(15) = 180$ (m²).

7. $1.09 + 0.25 = 1.34$, $\frac{7.50}{1.34} \approx 5.597 \approx 5.6$; about 5.6 lb of boneless chicken can be purchased.

8. $A = 15 = 5h$, $h = 3$; painting height is 3 ft; 3 in. = $\frac{1}{4}$ ft; width of framed painting =

$5 + 2 \left(\frac{1}{4} \right) = 5 \frac{1}{2}$; height of framed painting = $3 + 2 \left(\frac{1}{4} \right) = 3 \frac{1}{2}$; the dimensions are

$5 \frac{1}{2}$ ft by $3 \frac{1}{2}$ ft.

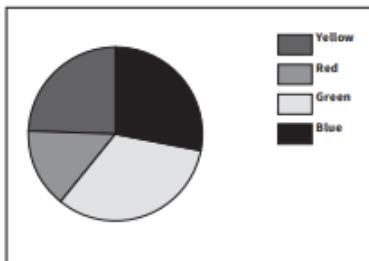
QUIZ

1. Why do we have different types of graphs? _____

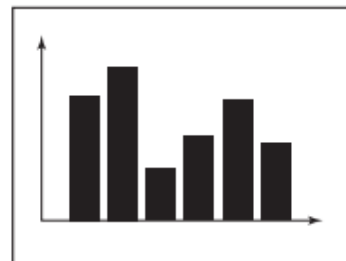
2. Which type of graph is shown below?



3. Which type of graph is shown below?



4. Which type of graph is shown below?



5. Which type of graph would you use to show parts of a whole? _____

6. Which type of graph would you use to show continuous data? _____

7. Which type of graph would you use to compare groups? _____

8. Which type of graph would you use to show election results (for example, to show the percentage of people who voted for each candidate)? _____

Why did you choose this graph? _____

9. Which type of graph would you use to show the results of a survey in which you asked students what types of pets they had at home? _____

Why did you choose this graph? _____

10. Which type of graph would you use to graph the number of daily visits to a website over the course of a month? _____