

# Representing Data with Graphs & Plots

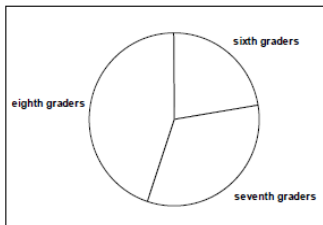
## Long-Term Memory Review – Grade 8

### Review 1

Word Bank: Use these terms to fill in the blanks for Question 1. Words may be used one, more than once, or not at all.

*histogram stem-and-leaf plot box-and-whisker plot circle graph bar graph line graph*

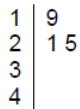
- A \_\_\_\_\_ is a graph of categorical data in which it is easy to compare part to whole. A \_\_\_\_\_ is a graph of numerical data where data are organized using consecutive place value, like tens and ones.
- Anita made the following graph to show the fraction or percent of each grade of students attending last Friday's basketball game. Based on the graph, which of the following is a true statement?



- There were more eighth graders than sixth and seventh graders combined.
- Less than one-fourth of the students were seventh grader.
- Over 50% of the students were eighth graders.
- There were about twice as many eighth graders as sixth graders.

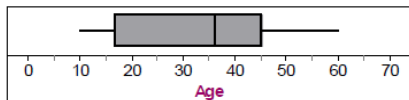
- Twelve groups of students in Mr. Smith's science class each planted 50 flower seeds as part of a study of flowers. The number of seeds that germinated for the groups are given in the table. Complete the stem-and-leaf plot that shows the distribution of the number of seeds that germinated. Describe the distribution shown.

Seeds Germinating
19
21
25
26
28
30
32
35
35
37
40
41



Key: 2 | 8 represents 28 germinated seeds

- From Question 3, determine the median number of seeds that germinated.
- Anita made the graph shown to display the ages of fans attending last Friday's basketball game. Identify whether each statement is true or false.



- Their median age is 36.
- There are more fans between the ages of 17 and 36 than there are between the ages of 37 and 45.
- The range of the ages is 50.
- One-fourth of the fans are older than age 45.

# Representing Data with Graphs & Plots

## Long-Term Memory Review – Grade 8

### Review 2

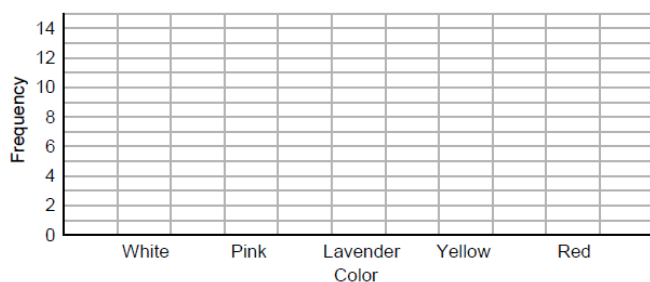
Word Bank: Use these terms to fill in the blanks for Question 1. Words may be used one, more than once, or not at all.

*histogram stem-and-leaf plot box-and-whisker plot circle graph bar graph line graph*

1. A \_\_\_\_\_ is a graph of categorical data in which it is easy to compare part to part, but not part to whole. A \_\_\_\_\_ is a graph of numerical data where the data has been divided into four equal-sized groups.

2. Fifty flower seeds were planted as part of a study of flowers. Forty of those seeds germinated. The number of each color of flower produced is given in the table. Create a bar graph that shows the frequencies of the colors of flowers that germinated. Describe the distribution shown in the graph.

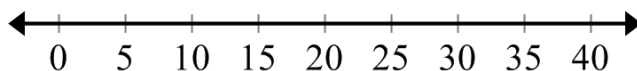
Flower Color	Seeds Germinating
white	13
pink	10
lavender	8
yellow	6
red	3



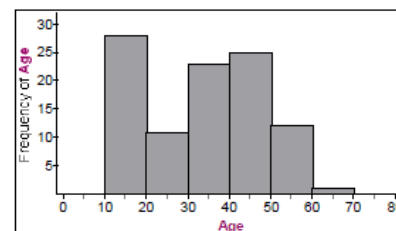
3. From Question 2, what percent of the flowers that germinated was lavender?
4. Use the following data to create a box-and-whisker plot.

13, 15, 16, 19, 20, 21, 22, 25, 28, 29, 31

Label the minimum, maximum, median, first quartile, and third quartile values on the box-and-whisker plot.



5. Anita made the graph shown to display the ages of fans attending last Friday's basketball game. Based on the graph, identify whether each statement is true or false.



- There are equal numbers of fans in each 10-year age group.
- There are more teenagers (under age 20) than adults (age 20 and older).
- More fans under the age of 40 attended the game than fans age 40 and over.
- Approximately 50% of the fans that attended the game were between 30 – 50 years of age.

# Representing Data with Graphs & Plots

## Long-Term Memory Review – Grade 8

### Review 3

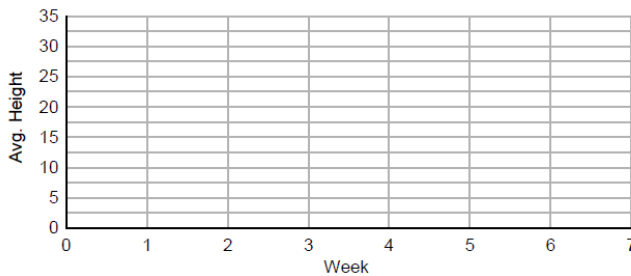
Word Bank: Use these terms to fill in the blanks for Question 1. Words may be used one, more than once, or not at all.

*histogram stem-and-leaf plot box-and-whisker plot circle graph bar graph line graph*

1. A \_\_\_\_\_ is a graph of data where one looks for a trend, usually over time. A \_\_\_\_\_ is a graph of numerical data where the data has been divided into equal-sized intervals, whose frequencies are shown as bars.

2. One student recorded the average height of her flowers at the end of each week over a six-week period. Create a line graph that shows the average height of the flowers over time. Describe the trend in growth over time.

Week Number	Height (cm)
0	0
1	2
2	7
3	15
4	22
5	27
6	30



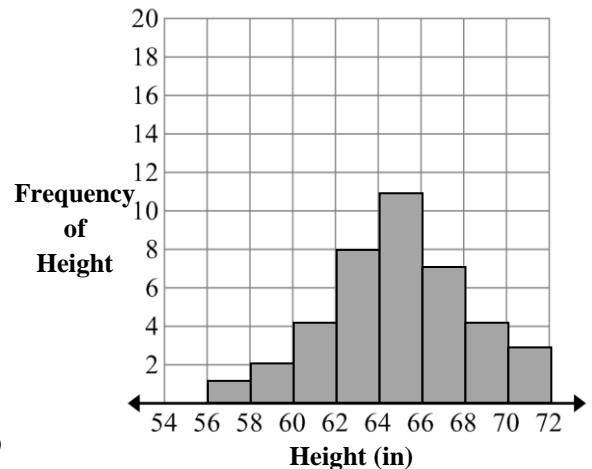
3. From Question 2, between which two weeks did the greatest growth occur?

4. Find the mean, median, and mode of the data in the stem-and-leaf plot.

1	9	Key: 1 9 represents 19
2	0 4 6	
3	2 7 7	
4	3 6	
5	0 1	

5. Susan made the graph shown to display the height of her classmates. Based on the graph, identify whether each statement is true or false.

- About 25% of the class is between 64 and 66 inches tall.
- The same number of students are shorter than 62 inches than those who are 68 inches or more.
- Half of the class is shorter than 64 inches.
- More than 50% of the class is 66 inches or taller.



# Representing Data with Graphs & Plots

## Long-Term Memory Review – Grade 8

### Review 4

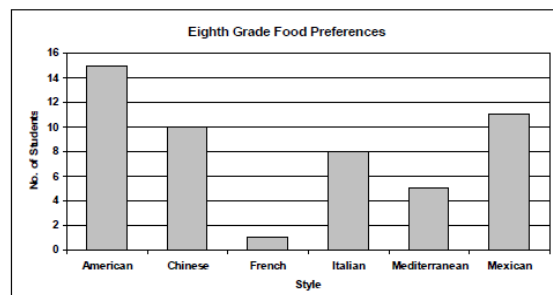
Word Bank: Use these terms to fill in the blanks for Question 1. Words may be used one, more than once, or not at all.

*histogram      stem-and-leaf plot      box-and-whisker plot      circle graph      bar graph      line graph*

- A \_\_\_\_\_ is a graph of categorical data in which it is easy to compare part to whole.  
 A \_\_\_\_\_ is a graph of numerical data where the data are organized using consecutive place value, like tens and ones.  
 A \_\_\_\_\_ is a graph of categorical data in which it is easy to compare part to part, but not part to whole.  
 A \_\_\_\_\_ is a graph of numerical data where the data has been divided into four equal-sized groups.  
 A \_\_\_\_\_ is a graph of data where one looks for a trend, usually over time.  
 A \_\_\_\_\_ is a graph of numerical data where the data have been divided into equal-sized intervals, whose frequencies are shown as bars.

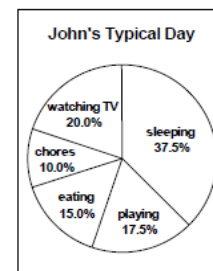
- The graph shown displays the results of a survey about 8<sup>th</sup>-grade students' favorite style of food. Based on the graph, identify whether each statement is true or false.

- Four more students prefer American food than prefer Mexican food.
- The sum of the number of students preferring Italian food or Mediterranean food is less than the number preferring Chinese food.
- Five times as many students prefer Mediterranean food as prefer French food.



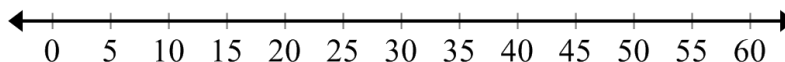
- The total number of students surveyed is 6.

- The circle graph shown displays how John spends his typical day. How many hours does John spend eating during a typical 24-hour day?



Use the following data to create a box-and-whisker plot. Label the values of the 5 key points on the box-and-whisker plot.

19, 20, 25, 25, 32, 38, 39, 43, 47, 50, 51



- Find the mean, median, and mode of the data in the stem-and-leaf plot.

1	1	1	2	3	3	3	5	6	7
2	1	2	8	9					
3	3	5							
4	2	6	7						
5	1								
6	5								

Key: 6|5 represents 65

# Representing Data with Graphs & Plots

## Long-Term Memory Review – Grade 8

### Quiz

- A \_\_\_\_\_ is a graph of categorical data in which it is easy to compare part to whole.

A \_\_\_\_\_ is a graph of numerical data where the data are organized using consecutive place value, like tens and ones.

A \_\_\_\_\_ is a graph of categorical data in which it is easy to compare part to part, but not part to whole.

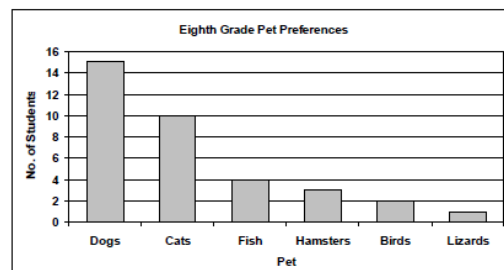
A \_\_\_\_\_ is a graph of numerical data where the data has been divided into four equal-sized groups.

A \_\_\_\_\_ is a graph of data where one looks for a trend, usually over time.

A \_\_\_\_\_ is a graph of numerical data where the data have been divided into equal-sized intervals, whose frequencies are shown as bars.

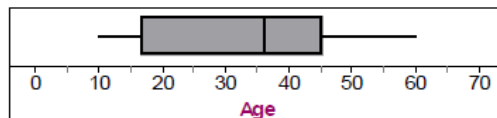
- The graph shown displays the results of a survey about 8<sup>th</sup>-grade students' favorite pets. Based on the graph, identify whether each statement is true or false.

- Six more students prefer cats than prefer fish.
- The number of students preferring dogs is greater than the sum of the numbers of students preferring all other pets.
- The total number of students surveyed is 35.
- Five times as many students prefer dogs as prefer hamsters.

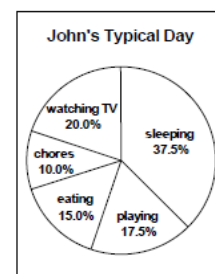


- Anita made the graph shown to display the ages of fans attending last Fridays' basketball game. Based on the graph, identify whether each statement is true or false.

- Their median age is 35.
- Half of the fans are between the ages of 17 and 45.
- More fans are above age 45 than below age 17.
- The range of the fans' ages is 50.

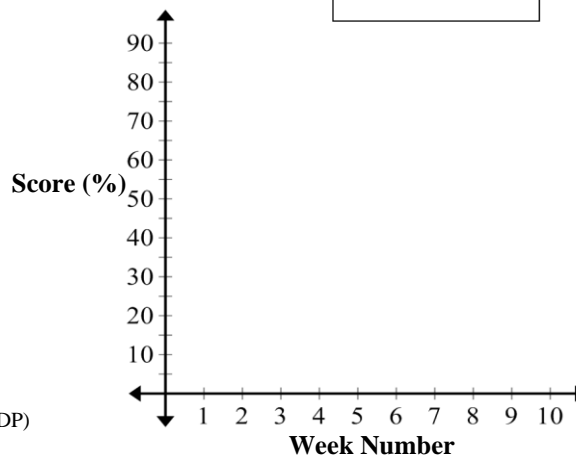


- The circle graph shown displays how John spends his typical day. How many hours does John spend sleeping during a typical 24-hour day?



- A student joined a study group and then began to track his test and quiz scores for the next nine-week grading period. Create a line graph that shows the scores over time. Describe the trend over time.

Week Number	Score (%)
1	59
2	65
3	68
4	72
5	76
6	78
7	81
8	84
9	88



# Representing Data with Graphs & Plots

## Long-Term Memory Review – Grade 8

### Answers

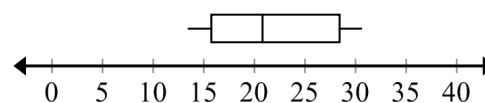
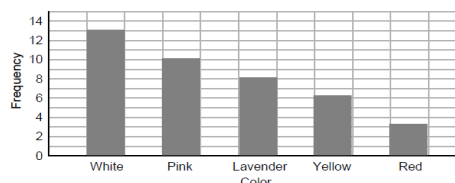
#### Review 1- Answers

- circle graph; stem-and-leaf plot
- D
- |   |           |
|---|-----------|
| 1 | 9         |
| 2 | 2 5 6 8   |
| 3 | 0 2 5 5 7 |
| 4 | 0 1       |

mean = 30.75; median = 31; mode = 35; Of the 50 flower seeds planted, about 30 germinated.
- median = 31 seeds
- a) true                      b) false                      c) true                      d) true

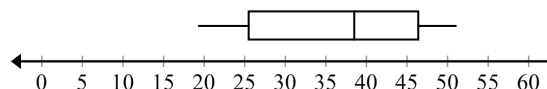
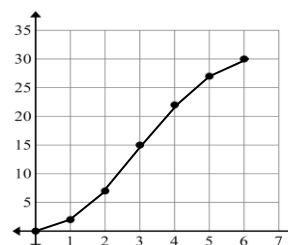
#### Review 2- Answers

- bar graph; box-and-whisker plot
- see bar graph at right
- 20% were lavender
- see box-and-whisker plot at right  
1<sup>st</sup> quartile = 16; median = 21; 3<sup>rd</sup> quartile = 28
- a) false                      b) false                      c) true                      d) true



#### Review 3- Answers

- line graph; histogram
- see line graph at right
- between week 2 and 3
- mean = 35; median = 37; mode = 37
- a) true                      b) true                      c) false                      d) false



#### Review 4- Answers

- circle graph; stem-and-leaf plot; bar graph; box-and-whisker plot; line graph; histogram
- a) true                      b) false                      c) true                      d) false
- 3.6 hours eating
- see box-and-whisker plot at right  
1<sup>st</sup> quartile = 25; median = 38; 3<sup>rd</sup> quartile = 47
- mean = 27; median = 21.5; mode = 13

#### Quiz - Answers

- circle graph; stem-and-leaf plot; bar graph; box-and-whisker plot; line graph; histogram
- a) true                      b) false                      c) true                      d) true
- a) false                      b) true                      c) false                      d) true
- 9 hours sleeping
- The student's scores steadily improved over time.

