

Central Tendency & Graphs of Data

Long-Term Memory Review – Grade 7

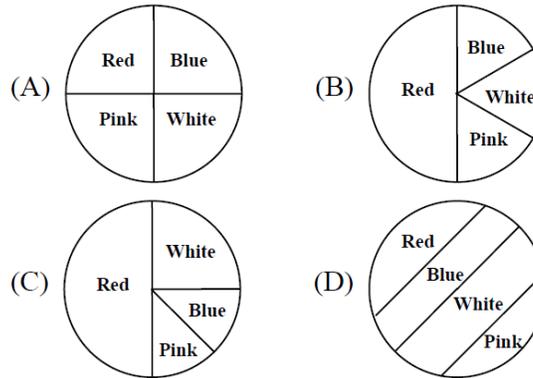
Review 1

Fill in the blanks.

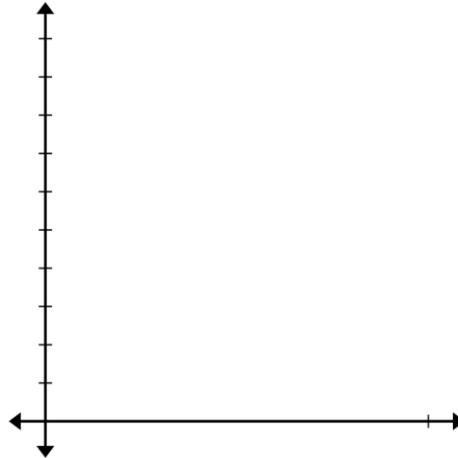
- The _____ is the difference between the largest and smallest values in a set of numerical data. The _____ is the middle value in a set of ordered data.
- Bob took five tests in math class. His scores were 85, 90, 70, 100, and 88. For Bob's scores, compute the following:
range _____ median _____ mean _____

- The frequency table shows the number of each color of 100 flowers planted in a flower bed. Which circle graph best represents the table?

Color	Frequency
Red	50
Blue	12
White	25
Pink	13



- Using the table from question 3, create a bar graph to represent the data.



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Review 2

Fill in the blanks.

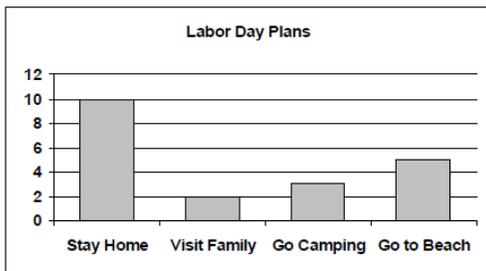
1. A(n) _____ is a data value which lies far from the general pattern of the remaining data. The _____ is computed by finding the sum of all values in a data set, then dividing by the number of data values.

2. Sue took five tests in math class. Her scores were 80, 70, 75, 75, and 20. Which value might be considered an outlier? Explain why.

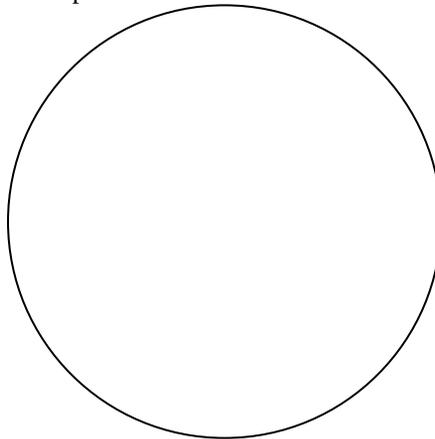
3. From question 2, compute the following:

range _____ median _____ mean _____

4. The bar graph shows how students will spend their Labor Day weekend.



- How many students were surveyed?
- How many more students are staying home than visiting family?
- Create and label a circle graph that represents the data.



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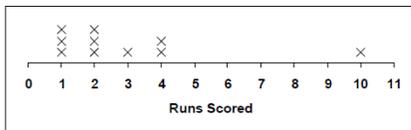
Review 3

Fill in the blanks.

- A(n) _____ is a data value which lies far from the general pattern of the remaining data. The _____ is the difference between the largest and smallest values in a set of numerical data. The _____ is the middle value in a set of ordered data. The _____ is computed by finding the sum of all values in a data set, then dividing by the number of data values.

- Which of these statistics are affected most by outliers: mean, median, or range? Explain why.

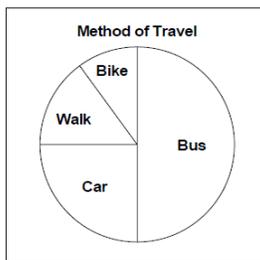
- The line plot shows the number of runs scored by a baseball team in their games last season.



- Compute the mean, median, and range of the scores.

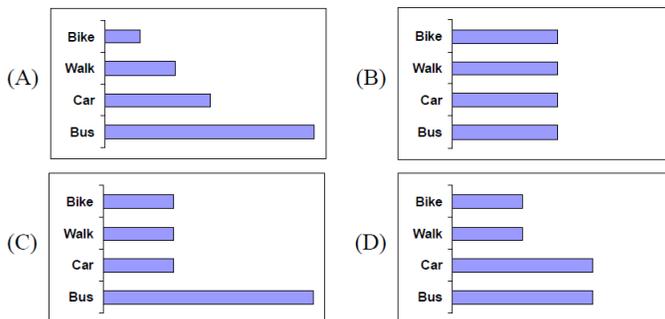
- If the outlier at 10 were removed, which values from part (a) would change?

- Sixty (60) students were asked how they traveled to school each morning. The results are shown in the circle graph. Which frequency table best corresponds to the graph?



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|------|--|-----|----|-----|----|------|----|------|----|-----|---|-----|----|-----|----|------|---|------|----|-----|--|-----|----|-----|----|------|----|------|----|-----|--|-----|----|-----|----|------|----|------|----|
| (A) | <table border="1"><tr><td>Bus</td><td>50</td></tr><tr><td>Car</td><td>25</td></tr><tr><td>Bike</td><td>10</td></tr><tr><td>Walk</td><td>15</td></tr></table> | Bus | 50 | Car | 25 | Bike | 10 | Walk | 15 | (B) | <table border="1"><tr><td>Bus</td><td>30</td></tr><tr><td>Car</td><td>15</td></tr><tr><td>Bike</td><td>5</td></tr><tr><td>Walk</td><td>10</td></tr></table> | Bus | 30 | Car | 15 | Bike | 5 | Walk | 10 | (C) | <table border="1"><tr><td>Bus</td><td>25</td></tr><tr><td>Car</td><td>25</td></tr><tr><td>Bike</td><td>25</td></tr><tr><td>Walk</td><td>25</td></tr></table> | Bus | 25 | Car | 25 | Bike | 25 | Walk | 25 | (D) | <table border="1"><tr><td>Bus</td><td>15</td></tr><tr><td>Car</td><td>15</td></tr><tr><td>Bike</td><td>15</td></tr><tr><td>Walk</td><td>15</td></tr></table> | Bus | 15 | Car | 15 | Bike | 15 | Walk | 15 |
| Bus | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Car | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bike | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Walk | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Car | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bike | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Walk | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Car | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bike | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Walk | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Car | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bike | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Walk | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

- From question 4, which bar graph corresponds to the circle graph?



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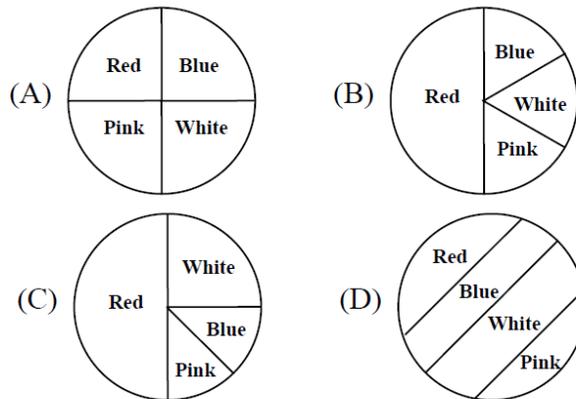
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Review 4

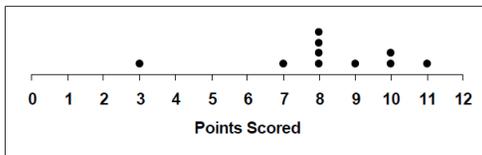
Fill in the blanks.

- The _____ is computed by finding the sum of all values in a data set, then dividing by the number of data values. The _____ is the middle value in a set of ordered data. A(n) _____ is a data value which lies far from the general pattern of the remaining data. The _____ is the difference between the largest and smallest values in a set of numerical data.
- Fred took five tests in math class. His scores were 50, 60, 60, 65, and 100. Which value might be considered an outlier? Explain why.
- Which of these statistics are affected most by outliers: mean, median, or range? Explain why.
- The frequency table shows the number of each color of 150 flowers planted in a flower bed. Which circle graph best represents the table?

Color	Frequency
Red	75
Blue	25
White	25
Pink	25



- The line plot shows the number of points scored by a team at the Olympics.



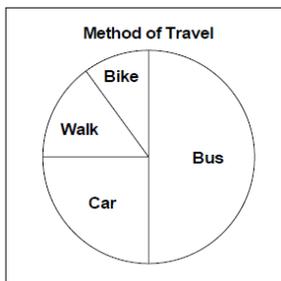
- Compute the mean, median, and range of the scores.
- Identify the outlier. Recalculate the mean, median and range with the outlier removed.

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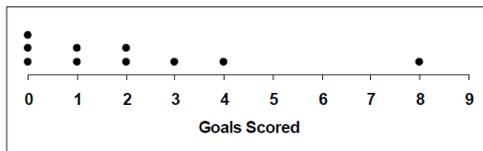
Quiz

- A(n) _____ is a data value which lies far from the general pattern of the remaining data. The _____ is the difference between the largest and smallest values in a set of numerical data. The _____ is computed by finding the sum of all values in a data set, then dividing by the number of data values. The _____ is the middle value in a set of ordered data.
- Which of these statistics are affected most by outliers: mean, median, or range? Explain why.
- Maya took five tests in math class. Her scores were 20, 85, 80, 90, and 80. Which value would be considered an outlier? Explain why.
- From question 3, compute the mean, median, and range of Aya's scores.
- Eighty (80) students were asked how they traveled to school each morning. The results are shown in the circle graph. Which frequency table best corresponds to the graph?



(A)	Bus	50	(B)	Bus	40	(C)	Bus	25	(D)	Bus	20
	Car	25		Car	20		Car	25		Car	20
	Bike	10		Bike	7		Bike	25		Bike	20
	Walk	15		Walk	13		Walk	25		Walk	20

- The line plot shows the number of goals scored by a soccer team in games last season.



- Compute the mean, median, and range of the scores.
- Are there any outliers? If so, explain why.

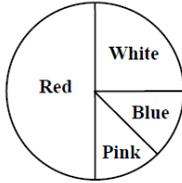
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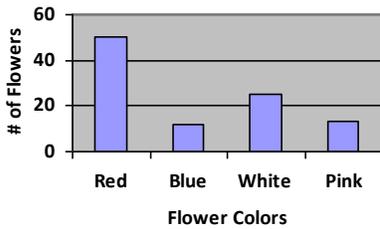
Answers

Review 1- Answers

- 1) range; median
- 2) range = 30; median = 88; mean = 86.6
- 3) C)



- 4) **Colors of Flowers**



Review 2- Answers

- 1) outlier; mean
- 2) 20; It is far less than the remaining data values.
- 3) range = 60; median = 75; mean = 64
- 4) a) 20 students were surveyed; b) 8 more students are staying home than visiting family c)

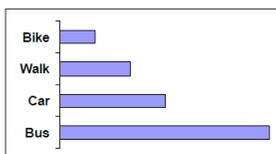


Review 3- Answers

- 1) outlier; range; median; mean
- 2) mean and range; Range will be greater when outliers are included. A small outlier will decrease the mean and a large outlier will increase the mean.
- 3) a) mean = 3; median = 2; range = 9 b) mean and range
- 4) B)

Bus	30
Car	15
Bike	5
Walk	10

- 5) A)



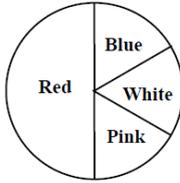
Review 4- Answers

- 1) mean; median; outlier; range
- 2) 100; It is far greater than the remaining data values
- 3) mean and range; Range will be greater when outliers are included. A small outlier will decrease the mean and a large outlier will increase the mean.

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4) B)



- 5) a) mean = 8.2; median = 8; range = 8
 b) 3; excluding the value 3, mean = 8.8, median = 8, and range = 4

Quiz - Answers

- 1) outlier; range; mean; median
- 2) mean and range; Range will be greater when outliers are included. A small outlier will decrease the mean and a large outlier will increase the mean.
- 3) 20; It is far less than the remaining data values
- 4) mean = 71; median = 80; range = 70
- 5) B)

Bus	40
Car	20
Bike	7
Walk	13

- 6) a) mean = 2.1; median = 1.5; range = 8 b) yes, 8; It is far greater than the remaining data values.