

# Warm Up

## Grade 7



1) There are 12 Grade 7 students in Ms. Teal's class class. Below are the student's marks on their last Math test:

~~94, 72, 86, 97, 92, 83, 74, 76, 83, 92, 43, 77~~

43, 72, 74, 76, 77, 83, 83, 86, 92, 92, 94, 97

- Find the median
- Find the mean
- Find the Range
- Find the mode
- If there an outlier? If so, what is the outlier?
- Now calculate the mean, median, mode and range without the outlier.

a) Median = 83

b) Mean =  $\frac{\text{Sum}}{\# \text{ data}} = \frac{969}{12} = 80.75$

c) Range = Big - Small  
 $= 97 - 43$   
 $= 54$

d) mode = 83, 92

e) outlier = 43

f) mean =  $\frac{926}{11} \approx 84.18$

median = 83

mode = 83, 92

Range = Big - Small  
 $= 97 - 72$   
 $= 25$



3.  
4, 28, 32, 32, 32, 34, 36, 36, 36, 36, 38, 40,  
42, 44, 46

mode - 36

median - 36

(8th  
number)

mean -  $\frac{516}{15} = 34.4$

b) outlier - 4

mode - 36

median - 36

mean  $\frac{512}{14} = 36.6$

Mode and median stayed the same  
mean increased

d)

# Class/Homework

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225

Finish

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# 2, 4, 6(a, b), #7a (Bonus Try 7b)

## Unit 7 Data Analysis (Part 1) Test will be Feb. 14 ?????

Topics: Mean, Median, Mode, Range, Outliers

8 Multiple Choice

3 Short Response

(VERY similar To wamp ups)

1. This set of data represents the waiting time, in minutes, at a fast-food restaurant:
- 5, 5, 5, 6, 5, 7, 0, 5, 1, 7, 7, 5, 6, 5, 5, 5, 8, 5, 0, 5, 4, 5, 2, 7, 9
- Calculate the mean, median, and mode.
  - Identify the outliers. Explain your choice.
  - Calculate the mean, median, and mode without the outliers.  
How is each average affected when the outliers are not included?

Remember to arrange the data in order before finding the median.

2. Bryan recorded the time he spent on the school bus each day for one month. Here are the times, in minutes:
- 15, 21, 15, 15, 18, 19, 14, 20, 95, 18, 21, 14, 15, 20, 16, 14, 22, 21, 15, 19
- Calculate the mean, median, and mode times.
  - Identify the outlier. How can you explain this time?
  - Calculate the mean, median, and mode times without the outlier.  
How is each average affected when the outlier is not included?
  - A classmate asks Bryan, "What is the average time you spend on the bus each day?" How should Bryan answer? Give reasons.

3. A clothing store carries pant sizes 28 to 46. A sales clerk records the sizes sold during her 6-h shift:
- 28, 36, 32, 32, 34, 4, 46, 44, 42, 38, 36, 36, 40, 32, 36
- Calculate the mean, median, and mode sizes.
  - Is there an outlier? If so, why do you think it is an outlier?
  - Calculate the mean, median, and mode sizes without the outlier.  
How is each average affected when the outlier is not included?
  - Should the outlier be used when the sales clerk reports the average pant size sold during her shift? Explain your thinking.



4. Here are the science test marks out of 100 for the Grade 7 students in a combined-grades class:
- 0, 66, 65, 72, 78, 93, 82, 68, 64, 90, 65, 68
- Calculate the mean, median, and mode marks.
  - Identify the outlier. How might you explain this mark?
  - Calculate the mean, median, and mode marks without the outlier.  
How is each average affected when the outlier is not included?
  - Should the outlier be used when reporting the average test mark? Explain.

5. a) Give an example of a situation in which outliers would not be used in reporting the averages. Explain why they would not be included.
- b) Give an example of a situation in which outliers would be used in reporting the averages. Explain why they would be included.