

C1 Mean, Median & Mode

- Calculate mean, median & mode from given data.
- Explain and decide when mean, median or mode is best used.

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Warm Up: Data Tables

Statistics: collecting and analyzing numerical data.

Data is often stored in tables. The following are two types of tables that are commonly used to store larger amounts of data. For each table, write the data stored in the table as a list.

Stem & Leaf

"Golf Scores"

Stem (tens)	Leaf (ones)
7	4 5 5 6
8	0 6 8
9	1 4 7
10	2

Frequency

"Shoe Sales"

Shoe Size	Frequency
7	3
8	4
9	6
10	3
11	2

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Mean

Mean: the average of the data values.

add the data values and divide the total by the number of data values.

Example: A student earned the following marks on various quizzes.
What was the average quiz mark?

"Quiz Marks"

Stem (tens)	Leaf (ones)
7	2 4 8
8	3 6
9	0 5

Practice: pg. 76: 1ace, 3

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Median

Median: the middle number in a set of the data values arranged in order.

when there is an even number of data, average the two middle values to find the median.

Example: Determine the median of 7, 12, 8, 6, 23, 14, 21.

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Median

Example: A fish and wildlife officer records the weights of trout caught in a lake. Their weights to the nearest tenth of a pound are 2.9, 1.5, 2.8, 1.1, 1.0, 2.7, 3.0, 1.6, 1.9, 2.9. (MathAtWork12 pg. 70)

a) Determine the median weight.

Practice: pg. 71: 1ac, 2, 3bc

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Mode

Mode: the number that occurs most frequently in a set of data.

a data set can have no mode, one mode or more than one mode.

Example: Determine the mode of the golf scores below.

"Golf Scores"

Stem (tens)	Leaf (ones)
7	4 5 5 6
8	0 6 8
9	1 4 7
10	2

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Mode

Example: Determine the mode of the shoe sales below.

"Shoe Sales"

Shoe Size	Frequency
7	3
8	4
9	6
10	3
11	2

Practice: pg. 68: 1b, 2, 4, 6

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What's Best: Mean, Median or Mode

Determine the mean, median and mode for the following data.
Which measure of central tendency is the best? Why?

A local "Dollar Store" sells items for \$1.00, \$1.50, \$2.00, \$2.50 and \$3.00. The owner wants to know which pricing category is the most popular and collects the data below.

Item Price	Frequency
\$1.00	6
\$1.50	4
\$2.00	7
\$2.50	2
\$3.00	1

Mode is best used for categorical data and when looking for the typical or most popular data.

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What's Best: Mean, Median or Mode

Determine the mean, median and mode for the following data.
Which measure of central tendency is the best? Why?

The house prices in a neighbourhood are as follows:

- \$325,000
- \$350,000
- \$290,000
- \$365,000
- \$345,000
- \$370,000
- \$650,000
- \$800,000

Median is best used for continuous data that has extreme values that do not reflect the typical data.

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What's Best: Mean, Median or Mode

Determine the mean, median and mode for the following data.
Which measure of central tendency is the best? Why?

The table shows the number of hours per week that Sam has worked at his part-time job.

Week	# of Hours
1	12
2	14
3	9
4	11
5	13

Mean is best used for continuous data that does not have extreme values.

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What's Best: Mean, Median or Mode

Summary:

Mean is best used for continuous data that does not have extreme values.

Median is best used for continuous data that has extreme values that do not reflect the typical data.

Mode is best used for categorical data and when looking for the typical or most popular data.

Practice: pg. 77: 1
pg. 78:3
pg. 79:4,6

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Quick Check: Mean, Median, Mode

Determine the mean, median and mode for the following data:

(Show your work)

A class had the following shoe sizes: 8, 10, 12, 9, 9, 8, 13, 10, 9

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