

The student's name has been blurred to ensure privacy.

# Quiz 1

## Means, modes and medians

Name: \_\_\_\_\_

1. A teacher allows her students to decide whether to use the mean, median, or mode to determine their test averages. One student determined that he will receive the highest average if he uses the mean. His test scores are 92, 83, 76, 76, 93.

a. What would his average score be if he uses mean measure? Show work to get credit.

76

1a. Incorrect response:  
The answer is incorrect; the mean of the number set is supposed to be 84.

b. What would his test score be if he uses a median measure? Show work to get credit.

76 76 83 92 93

1b. Correct response:  
The median of the given set of numbers is 83.

c. Compare his median and mean scores. Which one is larger? Show work to get credit.

76 > 83

1c. Incorrect response:  
The answer is unclear, given the unclear direction of the comparator symbol. The value for the mean, in either case, is incorrect.

2. There are 10 students in the technology class. For the final project, each student had to build a robot. The table below provides the number of days that each student spent building the robot.

4 days	10 days	10 days	14 days	4 days	25 days	15 days	22 days	16 days	10 days
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a. Find the average number of days that the whole class spent working on the project. Show work to get credit.

20  
+ 18  
4

2a. Correct response:  
The mean (average) amount of days calculated by the student is correct (13 days).

130 / 10 = 13 days



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2b. Correct response:  
The median in this set is the average of the two middle numbers, which the student correctly calculates as 14 in this case.

b. Find the median number of days that the whole class spent working on the project. Show work to get credit.

14  
4, 4, 10, 10, 14, 14, 16, 22, 25

c. Find the mode number of days that the whole class spent working on the project. Show work to get credit.

10

2c. Correct response:  
The student correctly wrote the mode of the given set of numbers, which is 10 in this case.

3. The exact average of a set of six test scores is 92. Five of these scores are 90, 98, 96, 94, and 85. What is the 6<sup>th</sup> test score? Show work to get credit.

No calculator

90  
98  
+ 96  
- 94  
+ 85  
463

4. What gets you excited about math?

Math is everywhere

3. Incorrect response:  
The student's work is incomplete; or scratched out, with no clear answer.

5. If you were given the chance to create this lesson which method would you use:

- a. Lecture  
b. Read textbook  
c. Watch movie  
d. Conduct hands-on activity  
e. Research on the internet

None of the above

6. Do you think robotics can be helpful when used to collect data in math experiments?

- a. Yes  
b. No  
c. Unsure

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Name: 

1. A LEGO ultrasonic sensor is pointed at the wall for 10 seconds. Each second a distance value from the sensor to the wall is measured and recorded. The following set represents the collected data:

3.6 cm	3.7 cm	3.5 cm	4.1 cm	3.7 cm	3.9 cm	4.2 cm	3.7 cm	3.9 cm	3.4 cm
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

- A. Determine the average distance from the sensor to the wall. Show work to get credit.

$$\begin{array}{r} 3.6 \\ 3.7 \\ 3.5 \\ 4.1 \\ 3.7 \\ 3.9 \\ 4.2 \\ 3.7 \\ 3.9 \\ 3.4 \end{array} + 4.1 + 3.7 + 3.9 + 4.2 + 3.7 + 3.9 + 3.4$$

1A. Correct response



- B. Determine the median distance from the sensor to the wall. Show work to get credit.

$$\begin{array}{c} 3.7 \\ 3.4 \\ 3.5 \\ 3.6 \\ 3.7 \\ 3.7 \\ 3.7 \\ 3.9 \\ 3.9 \\ 4.1 \end{array}$$

1B. Correct response

- C. Determine the mode of the distances from the sensor to the wall. Show work to get credit.

$$3.7$$

1C. Correct response:  
The mode of the set of numbers was written by the student correctly.

2. For five algebra examinations, Maria has an average of 88. What must she score on the sixth test to bring her average up to exactly 90? Show work to get credit.

2 Correct response:  
The student gave the value 100 as the sixth score, which is correct.

$$\begin{array}{r} 5 \\ 88 \end{array} \quad \begin{array}{r} 270 \\ X + X + X + X + X = \frac{270}{5} \\ 88 \times 5 = 440 + 100 \\ 540 / 6 = 100 \end{array}$$

3. The AIBO Entertainment Robot ERS-210 is Sony's 2nd generation robotic dog. The price of the robot over a series of months has been recorded and is presented in the table below:

\$2000	\$1880	\$1700	\$1650	\$1620	\$1800	\$1550	\$1645	\$1620
--------	--------	--------	--------	--------	--------	--------	--------	--------



Compare the quantity in Column A with the quantity in Column B. Which Column is greater? Explain what mode quantity represent in real life terms? Show work to get credit.

Column A	Column B
mean	median

3. Incorrect response:  
The student did not give any answer.

4. What did you like or dislike about the lesson?

Nothing

5. What did you like or dislike about the robotic device?

Nothing

6. Do you think robotics can be helpful when used to collect data in math experiments?

a. Yes  
b. No  
c. Unsure

7. Rate this lesson using the following

a. Strongly disliked  
b. Disliked  
c. Liked  
d. Strongly liked

8. What gets you excited about math?

its everywhere

9. Do you think the use robotics to collect data:

a. Made the lesson easier  
b. Made the lesson harder  
c. Made no difference in the lesson  
d. Conduct hands - on activity

but made it fun

10. If you were given the chance to create this lesson which method would you use:

a. Research on the internet  
b. Lecture  
c. Read textbook  
d. Conduct hands - on activity  
e. Watch movie

A Robotic demonstration