

Mean, Median, and Mode



24
hours

GRUB 'N' GO
DINER

Welcome to the Grub 'n' Go Diner. Sit down, sweetie. Don't bother with a menu; we're out of nearly everything. But we've still got *some* chow. Try the Stanburger—made with leftovers that our chef, Stan, picks up from other restaurants. And leave room for dessert—pie à la mold. While you wait for your food, try this *mean, median, and mode* practice test. Read the Study Tips first. And don't forget to leave *me* a tip!

STUDY TIPS: MEAN, MEDIAN, AND MODE

TO FIND A MEAN (AVERAGE):

- ✓ Add all the numbers in the set.
- ✓ Divide by the number of numbers in the set.

Example: 2, 8, 9, 5

- ✓ Add: $2 + 8 + 9 + 5 = 24$
- ✓ Divide: $24 \div 4 = 6$
- ✓ Mean = 6

TO FIND A MEDIAN OR MODE:

- ✓ Order all the numbers in the set.
- ✓ The *median* is the middle number. (If there are two middle numbers, add them and divide by 2.)
- ✓ The *mode* is the number that appears most often.

Example: 5, 17, 11, 17, 4

- ✓ In order: 4, 5, 11, 17, 17
- ✓ Median = 11; mode = 17

test by Laurie Boswell

ian à la Mode

For problems 1 to 6, fill in the circle of the correct answer. Use these data: Since noon, the number of specials ordered each hour have been 13, 16, 12, 16, and 18.

1 People seem to enjoy today's special, mute-loaf. (It doesn't make a sound. Usually.) What is the mean for the number of specials ordered each hour?

- (A) 15 (B) 12 (C) 16 (D) 18

2 Stan the chef went to "buy" supplies for the salad. (OK, he's swiping leaves and acorns from some guy's lawn.) While we continue to wait, find the median number of specials sold each hour.

- (A) 15 (B) 12 (C) 16 (D) 18

3 Stan stopped for dinner on his way back to work. (He refuses to eat here.) While we continue to wait for him, find the mode of the specials ordered each hour.

- (A) 15 (B) 12 (C) 16 (D) 18

4 In the next hour, we sold 20 specials. (We also sold 20 bottles of "Queasy Go Bye-Bye.") What will change in the number of specials ordered each hour?

- (A) Mean, median, and mode
(B) Median and mode
(C) Median only
(D) Mean only

5 We stopped offering the special after two more hours. (Some guy claiming to be an "inspector from the Board of Health" said he found a "mouse hair" in his

mute-loaf.) The mean number of specials ordered in the 8 total hours is 20. How many total specials were ordered in the final two hours?

- (A) 85 (B) 65 (C) 45 (D) 40

6 In those 8 hours, the mean number of specials ordered was 20 and the median was 17. (The number of diners who cleaned their plate was zero. Even stray dogs won't eat this stuff.) Which of the following statements must be true?

- (A) The diner sold 35 specials in the final hour.
(B) The median, 17, is how many specials were ordered during each of the last two hours.
(C) The diner sold 18 or more specials each of the last two hours.
(D) There is only one mode for these data: 16.

For questions 7 to 10, write in the correct answer.

7 Les Munny left his wallet at home, and he owes the diner \$10 for a "ham-and-fleas omelet." Sorry, Les, we won't accept this math problem as payment—but we will try to solve it: Think of a data set with three numbers in which the median and mode are both 10 but the mean is less than 10. (There are many answers.)

8 One of our new waiters, Brock N. Playtes, hasn't done that well in tips. (He broke 35 plates—and if he loses his job, he'll be broke too!)



The first three nights that he worked, Brock made \$24, \$38, and \$28. What was the mean amount Brock made in tips the first three nights?

9 After four nights, Brock made an average (mean) of \$27 in tips per night. How much did Brock make in tips on his fourth night? (Here's another tip, Brock: Find a different job!)

BREAK THE MISTAKE!

10 All the waiters and waitresses decided to chip in and buy the customers pizza to make up for the horrible food here. The 7 of us gave these amounts of money: \$5, \$10, \$8, \$10, \$5, \$5, and \$20. Brock said that the mean amount of money given was \$9, the median was \$10, and the mode was \$5. What was Brock's mistake—besides dropping all those plates?

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