GMAT Prep

Statistics and Interest

Statistics and Interest

1. 3, k, 2, m, 3, 8

The arithmetic mean of the list of numbers above is 4. If k and m are integers and $k \neq m$, what is the median of the list?

A. 2

B. 2.5

C. 3

D. 3.5

E. 4

Statistics and Interest

2. If m is the average (arithmetic mean) of the first 10 positive multiples of 5 and if M is the median of the first 10 positive multiples of 5, what is the value of $M - m$?

   A. -5

   B. 0

   C. 5

   D. 25

   E. 27.5

Statistics and Interest

3. If a certain sample of data has a mean of 20.0 and a standard deviation of 3.0, which of the following values is more than 2.5 standard deviations from the mean?

   A. 12

   B. 13.5

   C. 17

   D. 23.5

   E. 26.5

Statistics and Interest

4.

I. 72, 73, 74, 75, 76

II. 74, 74, 74, 74, 74

III. 62, 74, 74, 74, 89

The data sets, I, II, and III above are ordered from greatest standard deviation to least standard deviation in which of the following?

A. I, II, III

B. I, III, II

C. II, III, I

D. III, I, II

E. III, II, I

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5. 2, 4, 8, n, 3, 5, 7, 9, 6

In this list above, if n is an integer between 1 and 10, inclusive, then the median must be

A. Either 4 or 5
B. Either 5 or 6
C. Either 6 or 7
D. n
E. 5.5

Statistics and Interest

6. S is a set containing 9 different numbers. T is a set containing 8 different numbers, all of which are members of S, which of the following statements CANNOT be true?

A. The mean of S is equal to the mean of T.

B. The median of S is equal to the median of T

C. The range of S is equal to the range of T.

D. The mean of S is greater than the mean of T.

E. The range of S is less than the range of T

Statistics and Interest

7. If the average (arithmetic mean) of x and y is 60 and the average of y and z is 80, what is the value of z – x?

   A. 70

   B. 40

   C. 20

   D. 10

   E. It cannot be determined from the information given.

Statistics and Interest

8. The average (arithmetic mean) of 6 numbers is 8.5. When one number is discarded, the average of the remaining numbers becomes 7.2. What is the discarded number?

   A. 7.8

   B. 9.8

   C. 10.0

   D. 12.4

   E. 15.0

Statistics and Interest

9. The average of 5 positive integers a, b, c, d, and e is 16 where $a < b < c < d < e$. If $d = 30$, what is the greatest possible value of the median of these 5 integers?

   A. 15

   B. 16

   C. 19

   D. 29

   E. 30

Statistics and Interest

10.

X	Frequency
0	18
1	33
2	10
3	06
4	33

What is the mean of the values of the random variable X, whose frequency distribution is given in the table above?

A. 1.6

B. 2.03

C. 3.1

D. 4.5

E. 4.7

Statistics and Interest

11. If a, b, and c are integers, which one has the same standard deviation as the standard deviation of a, b, and c?

A. |a|, |b|, |c|

B. |a + 100|, |b + 100|, |c + 100|

C. 2a, 2b, 2c

D. a – 20, b – 20, c – 20

E. a^3, b^3, c^3

Statistics and Interest

12. Which of the following does not affect the median of a list of 5 different numbers?

A. Multiply each number by 2.
B. Add 10 to each number.
C. Increase the largest number only.
D. Increase the smallest number only
E. Subtract 10 to each number.

Statistics and Interest

13. The mean score of a group of male students is 110 and that of female students is 150. If the ratio of male students to that of female students is 3:5, then what is the average score after combining both groups?

    A. 125

    B. 130

    C. 135

    D. 140

    E. 145

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14. Each of the following linear equations defines y as a function of x for all integers x from 1 to 15. For which of the following equations is the standard deviation of the y-values corresponding to all the x-values, the greatest?

A. $y = \frac{x}{5}$

B. $y = x - 2$

C. $y = x + 5$

D. $y = 2x + 7$

E. $y = -4x - 9$

Statistics and Interest

15. In the terms: 5, 15, 40, 55, and X, the median of the given 5 numbers is 15. What will be the value of X so that the mean of these numbers is maximum?

    A. 5

    B. 14

    C. 15

    D. 40

    E. 56

Statistics and Interest

16. A certain characteristic in a large population has a distribution that is symmetric about the mean (M). If 68 percent of the distribution lies within one standard deviation (D) of the mean, what percent of the distribution is less than $M - D$?

A. 8%

B. 16%

C. 32%

D. 50%

E. 84%

Statistics and Interest

17. If $1,000 is invested at 15 percent annual interest, compounded semiannually, what is the approximate amount after 1 year?

A. $1050.3

B. $1120.1

C. $1145.2

D. $1150.0

E. $1,155.6

Statistics and Interest

18. What is the least number of full years that it would take $X, invested at a 20% annual interest rate, compounded annually, to be atleast $2X?

    A. 4

    B. 5

    C. 6

    D. 7

    E. 8

Statistics and Interest

19. Mark deposited $8,000 at a 6% simple annual rate of interest. He also deposited another $10,000 at an 8% annual rate of interest that was compounded half-yearly. What was the total amount of interest that Mark earned from these two deposits after 1 year?

    A. $1,200

    B. $1,280

    C. $1,296

    D. $2,080

    E. $2,144

Statistics and Interest

20. Harry and Bert invest $5,000 each in different banks. Harry earns annual rate of interest 12% compounded monthly and Bert earns annual rate of interest 12% compounded quarterly. If after 6 months Harry earns a total interest of H, and Bert earns a total interest of B, which of the following must be true?

    A. H = B

    B. H > B

    C. H < B

    D. H = $300

    E. B = $300

Thank you