MATHS

BOOKS - UNITED BOOK HOUSE

Model Test Set - 10

Exercise

1. Which of the following are true for all sets of data?

A. $Mean \leq median \leq \bmod e$

B. $Mean \geq median \geq \bmod e$

C. Mean = median = mode

D. none of these

Answer:

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2. Write a short note on measures of central tendency.

A. mean

B. median

C. mode

D. none of these

Answer:

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3. The numerical value of $\dfrac{mean - median}{s.\,d.}$

cannot exceed unity. (write true or false).

▶

4. For any distribution m_1 is

A. 0

B. 1

C. (-)1

D. none of these

Answer:

5. If α, β, γ are the roots of $x^3 + px + q = 0$, then $\alpha\beta\gamma =$ _ _ _ _ .

A. 7

B. 8

C. 11

D. none of these

Answer:

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6. The degree of the polynomial $7x^5 + 5x^9 + 3x^2 + 4x + 1$ is

A. 18

B. 1

C. 7

D. 126

Answer:

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7. The greatest common divisor of 7 and 18 is

A. 1

B. $\dfrac{1}{6}$

C. $\dfrac{1}{18}$

D. none of these

Answer:

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8. The probability of getting 9 dots with two unbiased dice is

A. 0.4

B. 0.2

C. 0.8

D. none of these

Answer:

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9. If $P(A) = \dfrac{1}{3}$, $P(B) = \dfrac{1}{2}$, $P(AIB) = \dfrac{1}{6}$. find $P(BIA)$.

10. What is diet survey? Write the advantages and disadvantages of any two methods of diest survery.

11. If $2u = 5x$ is the relation between the variables x and u and geometric mean of x is 1, find the geometric mean of u.

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12. If the relation between x and y is $2y - 6x = 6$ and if mode of x is 12, then find the mode of y.

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13. Are the following data consistent if $b_1 = 0.7$ and $b_2 = 1.5$ (symbol have their usual meanings)

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14. For two events A and B

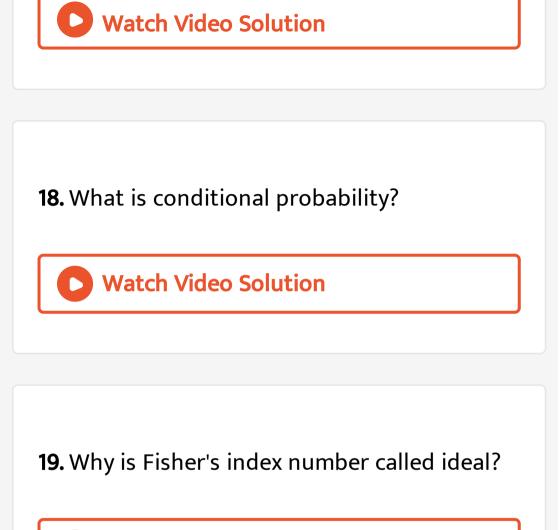$P(A^c/BC) + P(A/B^c) = ?$

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15. If P(A + B) = 2/3 and P(A - B) = 1/3, then P(B) =

?

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16. Write the sample space when one die is thrown twice.

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17. Define impossible event with examples.

18. What is conditional probability?

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19. Why is Fisher's index number called ideal?

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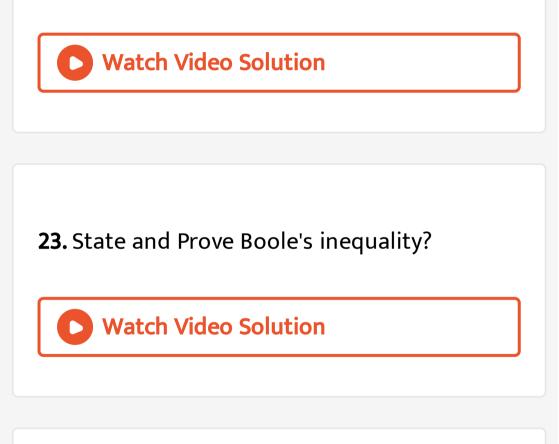**20.** Distinguish between discrete and continuous variable.

21. Write down the merits and demerits of mass questionnaire method.

22. If a value of a variable is zero, then what will be the value of A.M., G.M. and H.M. ?

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23. State and Prove Boole's inequality?

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24. State and Prove the theorem of compound probability. If events are independent, what

will be the form of the theorem?

25. What is the probability of obtaining a multiple of 3 in the throw of a fair die?

26. If a man walks along the four sides of a square ground with speeds v_1, v_2, v_3 and v_4

km/hour respectively, then what would be his average speed?

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27. Prove that the difference between the arithmetic mean and the medain can not be greater than the standard deviation.]

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28. The mean and s.d. of height readings of a group of employees of a firm are found to be 172 cm and 18 cm. While the same measure of their weight readings are 65 kg and 9 kg. Compare the variability of the height readings with that of the weight readings.

29. Find $\triangle^2 \left(e^{ax+b}\right)$, taking the interval of differencing as 1.

30. Find the value of $\log_{10} 3.5$ from the following table:

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31. Prove that $\log_5^7 < \sqrt{2}$.

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32. Find the probability that the birthday of 7 persons will fall on 7 different days of the week assuming equal probability for each of these days.

33. An integer x is selected at random from the first 50 natural members. Calculate $P\left(x + \dfrac{96}{x} > 50\right)$

34. What do you mean by family budget enquiry?

35. Write a short note on histogram of a frequency distribution.

36. Write a short note on Pie chart?

37. Prove that the variance of the first n odd positive integers is the same as the variance of the first n event positive integers.

38. Five non-similar pairs of socks are in a closet. Four socks are selected at random. What is the probability that there will be

among the four socks chosen

no complete pair?

39. Five non-similar pairs of socks are in a closet. Four socks are selected at random. What is the probability that there will be among the four socks chosen exactly one complete pair?

40. The letter of word $SOCIETY$ are placed at random in a row what is the probability that three vowels comes together?

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41. Prove that Marshall Edgeworth index number lies between laspeyers and Paasche's index numbers.

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