



INDIAN SCHOOL AL WADI AL KABIR

Department of Mathematics, 2020-2021

CLASS: XI

Final Assessment

16-02-2021

MCQ Practice Question (Complex Numbers & Statistics)

1. The Value of $\sqrt{-16}$ is

- A) $-4i$ B) $4i$ C) $-2i$ D) $2i$

Ans B) $4i$

2. The least value of n for which $\{(1 + i)/(1 - i)\}^n$ is real is

- A) 1 B) 2 C) 3 D) 4

Ans B) 2

3. The value of i^{999}

- A) 1 B) -1 C) i D) $-i$

ANS C) i

4. The value of x and y if $(3y - 2) + i(7 - 2x) = 0$

- A) $x=7/2, y=2/3$ B) $x=2/7, y=2/3$
C) $x=7/2, y=3/2$ D) $x=2/7, y=3/2$

Ans A) $x=7/2, y=2/3$

5. The modulus of $5 + 4i$ is

- A) 41 B) -41 C) $\sqrt{41}$ D) $-\sqrt{41}$

Ans C) $\sqrt{41}$

6. The value of $(1 - i)^4$ is

- A) 4 B) -4 C) $\sqrt{4}$ D) $-\sqrt{4}$

Ans B) -4

7. The multiplicative inverse of $(-i)$ is

- A) $-i$ B) 1 C) -1 D) i

Ans D) i

8. Solution of $x^2 + 2 = 0$ is

- A) $\pm 2i$ B) $\pm i$ C) $\pm \sqrt{2}i$ D) None of these

Ans C) $\pm \sqrt{2}i$

9. The number of non-zero integral solutions of the equations $|1 - i|^x = 2^x$

- A) 0 B) 1 C) 2 D) 3

Ans A) 0

10. Solve the system of inequalities $-2 < 1 - 3x < 7$

- A) $-2 < x < 2$ B) $-1 < x < 1$
C) $-2 < x < 1$ D) None of these

Ans: (c) $-2 < x < 1$

11. Find the solution for the pair of solution $x > 1$ and $x > -1$

- A) No solution B) $-1 < x < 1$
C) $x < -1$ D) $x > 1$

Ans: (d) $x > 1$

12. The solution of the inequality $3(2-x) \geq 2(1-x)$ for real x is

- (A) $x < 4$ (B) $x > 4$ (C) $x \leq 4$ (D) $x \geq 4$

Ans: (c) $x \leq 4$

13. The solution to $|3x - 1| + 1 < 3$ is

- (A) $2 < x < \frac{3}{4}$ (B) $-\frac{1}{3} < x < 1$
(C) $-\frac{1}{3} < x < \frac{1}{4}$ (D) $-3 < x < 3$

Ans: (b) $-\frac{1}{3} < x < 1$

14. Solve: $3x + 5 < x - 13$, when x is a real number

- (A) $x < -12$ (B) $x > -6$ (C) $x < -9$ (D) None of these

Ans: (c) $x < -9$

15: Find the pairs of consecutive even positive integers both of which are smaller than 10 and their sum of more than 11

- (A) (4, 8) (B) (6, 8) (C) (6, 8), (4, 8) (D) (6, 4), (4, 2)

Ans: (b) (6, 8)

16: Find the values of x when x is a natural number and $24x < 100$.

- (a) $\{5, 6, \dots, \infty\}$ (b) $\{1, 2, 3, 4\}$
(c) $\{1, 2, 3, 4, 5\}$ (d) $\{0, 1, 2, 3, 4\}$

Ans: b) $\{1, 2, 3, 4\}$

17: Find the solution for the pair of inequations $x > 1$ and $x < -1$

- (A) no solution (B) $x < -1$ (C) $-1 < x < 1$ (D) $x > 1$

Ans: (a) no solution

18. What are the integer values of x which satisfy the inequalities $x > -2$ and $x \leq 2$?

- (a) -1, 0, 1, 2, 3 (b) -1, 0, 1, 2 (c) 1, 2, 3, 4 (d) None of these

Ans: (b) -1, 0, 1, 2

19. If $-2 < 2x - 1 < 2$ then the value of x lies in the interval

- (a) $(1/2, 3/2)$ (b) $(-1/2, 3/2)$ (c) $(3/2, 1/2)$ (d) $(3/2, -1/2)$

Ans: b) $(-1/2, 3/2)$

20 : Solution of the inequality $3 - 2x \leq 9$ is

- (A) $x \geq -6$ (B) $x \geq -3$ (C) $x \leq -3$ (D) None of these

Ans: (b) $x \geq -3$

21: The coefficient of variation is computed by

- (a) $S.D/Mean \times 100$ (b) $S.D./Mean$
(c) $Mean/S.D \times 100$ (d) $Mean/S.D.$

Ans: (a) $S.D/Mean \times 100$

22. When tested the lives (in hours) of 5 bulbs were noted as follows: 1357, 1090, 1666, 1494, 1623. The mean of the lives of 5 bulbs is

- (A) 1445 (B) 1446 (C) 1447 (D) 1448

Ans: (B) 1446

23. The median and SD of a distributed are 20 and 4 respectively. If each item is increased by 2, the new median and SD are

- (A) 20, 4 (B) 22, 6 (C) 22, 4 (D) 20, 6

Answer: (c) 22, 4

24. Range of the data 4, 7, 8, 9, 10, 12, 13 and 18 is

- (A) 4 (B) 18 (C) 14 (D) 21

Answer: (c) 14

25. If the variance of the data is 121 then the standard deviation of the data is

- (A) 121 (B) 11 (C) 12 (D) 21

Answer: (b) 11

26. If the mean of first n natural numbers is $5n/9$, then $n =$

- (A) 5 (B) 4 (C) 9 (D) 10

Answer: (c) 9

27

The mean of a group of 100 observations was found to be 20. Later on, it was found that three observations were incorrect, which was recorded as 21, 21 and 18. Then the mean if the incorrect observations are omitted is

- (A) 18 (B) 20 (C) 22 (D) 24

Answer: (b) 20

28. The mean weight of a group of 10 items is 28 and that of another group of n items is

35. The mean of combined group of $10 + n$ items is found to be 30. Then the value of n is

- (a) 12 (b) 10 (c) 4 (d) 2

Ans: (c) 4

29 . If the mean of the first n odd natural numbers be n itself, then n is equal to

- (A) 3 (B) any natural number (C) 2 (D) 1

(B) any natural number

30 . A batsman scores runs in 10 innings as 38,70,48,34,42,55,63,46,54 and 44, then the mean score is

- (A) 4.94 (B) 49.4 (C) 494 (D) 0.494

Ans: (b) 49.4