CAT GURUKUL
Quant — Algebra/Geometry/Modern
CAT-QA-ALG · 2026-05-30 · 40 min · +?/?

1.
The sum of the roots of the quadratic equation $x^2 - 7x + 10 = 0$ is: [mcq_single_correct]

- A. 7
- B. 10
- C. −7
- D. 3

2.
If $x + 1/x = 3$, then the value of $x^2 + 1/x^2$ is: [mcq_single_correct]

- A. 9
- B. 7
- C. 11
- D. 6

3.
A quadratic equation $ax^2 + bx + c = 0$ has real and distinct roots if: [mcq_single_correct]

- A. $b^2 - 4ac = 0$
- B. $b^2 - 4ac < 0$
- C. $b^2 - 4ac > 0$
- D. $b^2 - 4ac = 1$

4.
The value of $\log_3 81$ is: [mcq_single_correct]

- A. 3
- B. 27
- C. 9
- D. 4

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5.
If 2^x = 32, then x equals: [mcq_single_correct]

- A. 5
- B. 4
- C. 6
- D. 16

6.
The sum of the first 10 terms of the arithmetic progression 3, 7, 11, ... is: [mcq_single_correct]

- A. 200
- B. 210
- C. 190
- D. 220

7.
The 5th term of the geometric progression 2, 6, 18, ... is: [mcq_single_correct]

- A. 54
- B. 108
- C. 162
- D. 216

8.
The solution set of the inequality $|x - 3| < 2$ is: [mcq_single_correct]

- A. $x < 1$ or $x > 5$
- B. $-5 < x < 1$
- C. $x > 5$
- D. $1 < x < 5$

9.
If $f(x) = 2x + 3$, then $f(5)$ equals: [mcq_single_correct]

- A. 13
- B. 10
- C. 8
- D. 16

10.
If $a : b = 3 : 4$ and $a + b = 28$, then a equals: [mcq_single_correct]

- A. 16
- B. 12
- C. 10
- D. 14

11.
By the remainder theorem, the remainder when $x^2 - 3x + 2$ is divided by $(x - 2)$ is: [mcq_single_correct]

- A. 2
- B. −2
- C. 0
- D. 4

12.
The arithmetic mean of 4 and 16 is: [mcq_single_correct]

- A. 8
- B. 12
- C. 20
- D. 10

13.
The product of the roots of the equation $x^2 - 5x + 6 = 0$ is: [mcq_single_correct]

- A. 6
- B. 5
- C. −6
- D. 1

14.
If the roots of $x^2 - kx + 9 = 0$ are equal, then the positive value of k is: [mcq_single_correct]

- A. 9
- B. 6
- C. 3
- D. 18

15.
If $x^2 - 9x + 20 = 0$, the larger of the two roots is ___. [tita_numeric]

16.
The value of $\log_2 64$ is ___. [tita_numeric]

17.
The value of $(3^3 \times 3^2) \div 3^4$ is ___. [tita_numeric]

18.
If $3x - 7 = 11$, then x = ___. [tita_numeric]

19.
The 7th term of the arithmetic progression 5, 8, 11, ... is ___. [tita_numeric]

20.
The sum 1 + 2 + 3 + ... + 15 is ___. [tita_numeric]

21.
If $x + y = 10$ and $x - y = 4$, then the value of x is ___. [tita_numeric]

22.
The number of integer values of x satisfying $|x| \leqslant 3$ is ___. [tita_numeric]