CAT GURUKUL
Answer Key — Quant — Algebra/Geometry/Modern
CAT-QA-ALG · 2026-05-30

1. **A**
Sum of roots = −b/a = −(−7)/1 = 7 (roots are 2 and 5).

2. **B**
$x^2 + 1/x^2 = (x + 1/x)^2 − 2 = 3^2 − 2 = 9 − 2 = 7$.

3. **C**
Real and distinct roots require a positive discriminant: $b^2 − 4ac > 0$.

4. **D**
$\log_3 81 = \log_3 3^4 = 4$. Hence the answer follows directly.

5. **A**
2^x = 32 = 2^5, so x = 5. Hence the answer follows directly.

6. **B**
$S_{10} = (10/2)[2×3 + 9×4] = 5[6 + 36] = 5×42 = 210$.

7. **C**
5th term = $ar^4 = 2 × 3^4 = 2 × 81 = 162$.

8. **D**
$|x − 3| < 2$ means $−2 < x − 3 < 2$, i.e. $1 < x < 5$.

9. **A**
f(5) = 2×5 + 3 = 13. Hence the answer follows directly.

10. **B**
Parts 3 + 4 = 7; each = 28/7 = 4; a = 3×4 = 12.

11. **C**
By the remainder theorem, remainder = f(2) = 4 − 6 + 2 = 0.

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12. **D**
AM = (4 + 16)/2 = 10. Hence the answer follows directly.

13. **A**
Product of roots = c/a = 6/1 = 6 (roots 2 and 3).

14. **B**
Equal roots require discriminant 0: $k^2 = 4 \times 9 = 36$, so k = 6 (positive value).

15. **5**
$x^2 - 9x + 20 = (x-4)(x-5) = 0$, so roots are 4 and 5; the larger is 5.

16. **6**
$\log_2 64 = \log_2 2^6 = 6$. Hence the answer follows directly.

17. **3**
$(3^3 \times 3^2) \div 3^4 = 3^{(3+2-4)} = 3^1 = 3$.

18. **6**
$3x - 7 = 11 \Rightarrow 3x = 18 \Rightarrow x = 6$.

19. **23**
7th term = a + 6d = 5 + 6×3 = 23.

20. **120**
Sum = n(n+1)/2 = 15×16/2 = 120.

21. **7**
Adding the equations: $2x = 14 \Rightarrow x = 7$.

22. **7**
$|x| \leqslant 3$ gives integers −3,−2,−1,0,1,2,3 — that is 7 values.