



CHAPTER-WISE TEST - 2

SUGGESTED ANSWER

CA (FOUNDATION)

QA

CHAPTER EQUATIONS,
LINEAR EQUALITIES

MARKS- 30

DURATION- 50 MINUTES

INSTRUCTIONS:

1. All the questions are compulsory.
2. Properly mention Test no. on First Page and Page no. on every answersheet.
3. Working Notes are compulsory wherever required in support of your solution.
4. Do not copy any solution from material.
5. Attempt as much as you know to fairly judge your performance.
6. Please upload your Answer Sheet Horizontally.
7. Copy once get evaluated by Evaluator cannot be re-uploaded by the student.
8. Always Check correct Test No. of your subject while uploading answer sheet.
9. Handwriting should be clean

LEGAL: Material provided by caexamtestseries is subject to copyright. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher. For permission requests, write to the publisher, addressed "Attention: Permissions Coordinator," at info@caexams.in. Content is continuously tracked via barcode. In any person caught of copyright infringement, strong legal action will be taken.

1. If A and B are the roots of the equation $16x^2 - 8x + 1 = 0$, then which of the following is true?

- a) A, B are real
- b) A, B are real and $A \neq B$
- c) A, B are real and $A = B$
- d) A and B, both are imaginary

2. If M and N are the roots of the equation $2(A^2 + B^2)X^2 + 2(A + B)x + 1 = 0$, then which of the following is true?

- a) M, N are real
- b) M, N are Imaginary
- c) M, N are Distinct
- d) Both b) & c) above

3. If one root of the equation $4x^2 + 5x + K = 0$ be reciprocal of another root, but negative in sign, then what can be the value of K?

- a) 4
- b) - 4
- c) 2.75
- d) - 3.25

4. If the roots of the equation $1/(x + 2) + 1/(x + 3) = 2/5$, are equal in magnitude but opposite in sign, then the product of the roots is:

- a) 1
- b) 2.5
- c) -13
- d) - 6.5

5. 'A' meters of cloth costs \$35. If this piece of cloth would had been 4 m longer and each meter costs \$ 1 less, the cost of the cloth would had been \$35. What can be the value of A?

- a) 8
- b) 10
- c) 12
- d) 14

6. Find the maximum value of the expression $x^2 - 4x + 7$, for real value of x.

- a) 3
- b) 8
- c) 9
- d) Undeterminable

7. The equation of a line parallel to the line joining the points (7, 5) and (2, 9) which passes through the point (3, - 4) is:

- (a) $7x - 4y + 8 = 0$
- (b) $7x - 4y - 8 = 0$
- (c) $5y + 4x + 8 = 0$
- (d) $5y - 4x + 8 = 0$

8. If $(a^2 + b^2 + c^2) = 1$, then what can be the minimum value of $(ab + bc + ca)$?

- a) 1
- b) $\frac{1}{2}$
- c) $-\frac{1}{2}$
- d) 0

9. Let A, B and C be the three roots of the cubic equation: $x^3 + 7x^2 - 21x - 27 = 0$. What is the value of $(AB + BC + CA)$?

- a) 7
- b) - 21
- c) 21
- d) 27

10. For the given bi-quadratic equation: $4x^4 - 16x^3 + 7x^2 + 16x + 4 = 0$, what is the value of product of all possible roots of the equation?

- a) - 4
- b) 4
- c) - 16
- d) 1

11. For the given equation: $(x^2 + 2)^2 + 8x^2 - 6x(x^2 + 2) = 0$, what is the sum of the roots of the equation?

- a) 8
- b) 6
- c) - 6
- d) 0

12. If - 4 is a root of the equation $x^2 + px - 4 = 0$ and the equation $x^2 + px + q = 0$ has equal roots, find q.

- a) 2
- b) 1.75
- c) 2.25
- d) 3.25

13. If one root of the equation $14x^2 + 53x + K = 0$ be reciprocal of another root, find the value of K.

- a) 7
- b) 14
- c) $14/125$
- d) None of the above

14. The length of Hypotenuse of a right triangle exceeds the length of the base by 2 cm and exceeds twice the length of the altitude by 1 cm. Find the length of each side of the triangle.

- a) 15, 8, 12
- b) 15, 8, 10
- c) 8, 15, 17
- d) 17, 15, 12

15. Let a, b, c are roots of the cubic equation: $x^3 + px + q = 0$. Then find the cubic equation whose roots are: $1/a, 1/b, 1/c$.

- a) $px^3 + qx^2 + 1 = 0$
- b) $x^3 + qx^2 + p = 0$
- c) $px^3 + x^2 + q = 0$
- d) $qx^3 + px^2 + 1 = 0$

16. For the given equation: $(x^2 + 2)^2 + 8x^2 - 6x(x^2 + 2) = 0$, what is the product of the roots of the equation?

- a) -4
- b) 4
- c) 3
- d) None of the above

17. $F(x) = px^2 + qx + r$ $F(1)$ and $F(0)$ have different signs. If $r > 0$, then which of the following is true?

- a) $p^3 + q^3 + r^3 - pqr < 0$
- b) $p^3 + q^3 + r^3 - pqr > 0$
- c) $p^3 + q^3 + r^3 - 3pqr < 0$
- d) $p^3 + q^3 + r^3 - 3pqr > 0$

18. What is the sum of two consecutive odd numbers whose product is 783?

- a) 54
- b) 58
- c) -58
- d) -56

19. Which of the following equation in variable X have two roots, 2 and 4?

- a) $X^2 - 6X - 8 = 0$
- b) $X^2 + 6X - 8 = 0$
- c) $X^2 + 6X + 8 = 0$
- d) $X^2 - 6X + 8 = 0$

20. Two roots of a quadratic equation $x^2 + x - 6 = 0$ are A and B respectively. If $A > B$, then which of the following quadratic equation will have roots $-A$ and B ?

- a) $x^2 - 5x + 6 = 0$
- b) $x^2 + 5x - 6 = 0$
- c) $x^2 + 5x + 6 = 0$
- d) $x^2 - 5x - 6 = 0$

21. Find the positive value of k for which the equations: $x^2 + kx + 64 = 0$ and $x^2 - 8x + k = 0$ will have real roots:

- (a) 12
- (b) 16
- (c) 18
- (d) 22

22. A man sells 6 radios and 4 televisions for Rs. 18,480. If 14 radios and 2 televisions are sold for the same amount, what is the price of a television?

- (a) Rs. 1,848
- (b) Rs. 840
- (c) Rs. 1,680
- (d) Rs. 3,360

23. Find the range of values of x, which satisfy the inequality $\frac{1}{5} < \frac{3x}{10} + 1 < \frac{2}{5}$. $x \in \mathbb{R}$

- a) $\{x : x \in \mathbb{R}, -4 < x < 2\}$
- b) $\{x : x \in \mathbb{R}, -4 < x < -2\}$
- c) $\{x : x \in \mathbb{R}, -4 \leq x < 2\}$
- d) $\{x : x \in \mathbb{R}, -4 \leq x < -2\}$

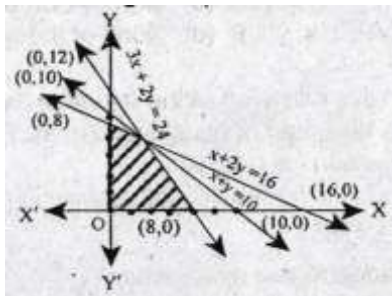
24. List the elements of the solution set of the in-equation $-3 < (x - 2) \leq (9 - 2x)$, $x \in \mathbb{N}$.

- a) $\{0, 1, 2\}$
- b) $\{1, 2, 3\}$
- c) $\{1, 2, 3.67\}$
- d) None of the above

25. Find the solution set for $\log_2 \left[\frac{x+1}{x-1} \right] < 0$

- a) $\{x : x \in \mathbb{R}, x > 1\}$
- b) $\{x : x \in \mathbb{R}, x > -1\}$
- c) $\{x : x \in \mathbb{R}, x < 1\}$
- d) $\{x : x \in \mathbb{R}, x < -1\}$

26. The shaded region represents :



- (a) $3x + 2y < 24, x + 2y \geq 16, x + y \leq 10, x \geq 0, y \geq 0$
- (b) $3x + 2y < 24, x + 2y \leq 16, x + y \geq 10, x \geq 0, y \geq 0$
- (c) $3x + 2y < 24, x + 2y < 16, x + y \leq 10, x > 0, y \geq 0$
- (d) None of these.

27. If $a > 0$ and $b < 0$, it follows that:

- (a) $\frac{1}{a} > \frac{1}{b}$
- (b) $\frac{1}{a} < \frac{1}{b}$
- (c) $\frac{1}{a} = \frac{1}{b}$
- (d) None of these.

28. The Linear relationship between two variables in an inequality:

- (a) $ax + by \leq c$.
- (b) $ax by \leq c$
- (c) $axy + by \leq c$
- (d) $ax + bxy \leq c$

29. The union forbids employer to employ less than two experienced person (x) to each fresh person (y).

This situation can be expressed as:

- (a) $x \leq y/2$.
- (b) $y \leq x/2$
- (c) $y \geq x/2$
- (d) None of these.

30. The solution of the inequality $8x + 6 < 12x + 14$ is:

- (a) (-2,2)
- (b) (0,-2)
- (c) (2,)
- (d) (- 2,)

