

MATHS

Quadratic Equations Worksheet for MAH MCA CET 2025

For students preparing for MCA Entrance Exam

- The degree of polynomial $336x^2 + 210x + 42$
 - 3
 - 4
 - 42
 - 2
- If $2x^2 + ax + b$, when divided by $x - 3$, leaves a remainder of 31 and $x^2 + bx + a$, when divided by $x - 3$, leaves a remainder of 24, then $a + b$ equals
 - 23
 - 7
 - 7
 - 23
- If $a + b + c = 2s$, then $[(s - a)^2 + (s - b)^2 + (s - c)^2 + s^2] = ?$
 - $(a^2 + b^2 + c^2)$
 - $(4s^2 - a^2 - b^2 - c^2)$
 - $(s^2 - a^2 - b^2 - c^2)$
 - $(s^2 + a^2 + b^2 + c^2)$
- In a test, (+5) marks are given for every correct answer and (-2) marks are given for every incorrect answer, Rakesh answered all the questions and scored 30 marks though he got 10 correct answers. How many incorrect answers had he attempted?
 - 10
 - 12
 - 10
 - 12
- The sum of a number and its reciprocal is -12. What would be the sum of cubes of the two (the number and its reciprocal)?
 - 1764
 - 1728
 - 1681
- 1692
- If $\frac{\sqrt{3}-1}{\sqrt{3}+1} = a + b\sqrt{3}$; then $a^2 + b^2 = ?$
 - $\sqrt{8}$
 - 7
 - 5
 - 6
- solve for $x; x \in N: (x - 4)^2 - 36 = 0$
 - 2
 - 10
 - 10
 - 2
- Find the values of k for which $x^2 + 5kx + k^2 + 5$ is exactly divisible by $x+2$ but not divisible by $x+3$.
 - Both 1 and 9
 - 1
 - Neither 1 nor 9
 - 9
- If $y = -1$, then the value of $1 + \left(\frac{1}{y}\right) + \left(\frac{1}{y^2}\right) + \left(\frac{1}{y^3}\right) + \left(\frac{1}{y^4}\right) + \left(\frac{1}{y^5}\right)$ is
 - 1
 - 0
 - 1
 - 2
- If x and y are positive with $x - y = 2$ and $xy = 24$, then $\frac{1}{x} + \frac{1}{y}$ is equal to
 - $\frac{5}{12}$
 - $\frac{1}{12}$
 - $\frac{1}{6}$

D. $\frac{25}{6}$

11. If $ax + by = 3$, $bx - ay = 4$ and $x^2 + y^2 = 1$ then the value of $a^2 + b^2$ is

- A. 25
- B. 26
- C. 27
- D. 28

12. If $\sqrt{3}x - 2 = 2\sqrt{3} + 4$, then the value of x is

- A. $2(1 - \sqrt{3})$
- B. $2(1 + \sqrt{3})$
- C. $1 + \sqrt{3}$
- D. $1 - \sqrt{3}$

13. If $\frac{3x+6}{8} - \frac{11x-8}{24} + \frac{x}{8} = \frac{3x}{8} - \frac{x+7}{24}$, then the value of x is

- A. -3
- B. $\frac{3}{2}$
- C. 3
- D. $\frac{1}{3}$

14. The value of y in the solutions of the equations $2^{x+y} = 2^{x-y} = \sqrt{8}$ is

- A. 0
- B. $\frac{1}{4}$
- C. $\frac{1}{2}$
- D. $\frac{3}{7}$

15. If 5 is added to twice of a number it becomes 6, then the number is

- A. 0.5
- B. 5
- C. 0.25
- D. None of these

16. The sum of the two numbers is 11 and their product is 30, then the numbers are

- A. 8, 3
- B. 9, 2
- C. 7, 4
- D. 6, 5

17. If one number is thrice the other and their sum is 20, then the number are

- A. 5, 15
- B. 4, 12
- C. 3, 9

D. None of these

18. If $x + y = 7$ and $3x - 2y = 11$, then

- A. $x = 2, y = 5$
- B. $x = 5, y = 5$
- C. $x = 5, y = 2$
- D. $x = 0, y = 3$

19. The solution of the system of linear equations:

$0.4x + 0.3y = 1.7$ and $0.7x - 0.2y = 0.8$ is

- A. $x = 3, y = 2$
- B. $x = 2, y = -3$
- C. $x = 2, y = 3$
- D. None of these

20. If $(x + \frac{1}{x}) : (x - \frac{1}{x}) = 5 : 4$, then the value of x is

- A. 0
- B. ± 1
- C. ± 2
- D. ± 3

Answer Key

1. D	2. C	3. A	4. A	5. D	6. C	7. C	8. D	9. B	10. A
11. A	12. B	13. C	14. A	15. A	16. D	17. A	18. C	19. C	20. D

