

Class 10 Mathematics

Chapter-Wise Multiple Choice Questions (MCQs)

Comprehensive Practice Paper Based on the Latest Exam Pattern

General Instructions:

- This document contains chapter-wise multiple-choice questions for Class 10 Mathematics.
 - Each question has four options out of which only one is correct.
 - A comprehensive answer key is provided at the end of the document.
 - Use these questions for revision and mock practice to strengthen your conceptual understanding.
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Chapter 1: Real Numbers

1. The decimal expansion of the rational number $\frac{14587}{1250}$ will terminate after:
(A) 1 decimal place
(B) 2 decimal places
(C) 3 decimal places
(D) 4 decimal places
2. If two positive integers a and b are written as $a = x^3y^2$ and $b = xy^3$, where x, y are prime numbers, then HCF (a, b) is:
(A) xy
(B) xy^2
(C) x^3y^3
(D) x^2y^2
3. The product of a non-zero rational and an irrational number is:
(A) always irrational
(B) always rational
(C) rational or irrational
(D) one
4. If the HCF of 65 and 117 is expressible in the form $65m - 117$, then the value of m is:
(A) 4
(B) 2
(C) 1
(D) 3
5. The largest number which divides 70 and 125, leaving remainders 5 and 8, respectively, is:

- (A) 13
- (B) 65
- (C) 875
- (D) 1750

Chapter 2: Polynomials

6. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is:
- (A) 10
 - (B) -10
 - (C) -7
 - (D) -2
7. A quadratic polynomial, whose zeroes are -3 and 4 , is:
- (A) $x^2 - x + 12$
 - (B) $x^2 + x + 12$
 - (C) $\frac{x^2}{2} - \frac{x}{2} - 6$
 - (D) $2x^2 + 2x - 24$
8. The zeroes of the quadratic polynomial $x^2 + 99x + 127$ are:
- (A) both positive
 - (B) both negative
 - (C) one positive and one negative
 - (D) both equal
9. If the zeroes of the quadratic polynomial $ax^2 + bx + c$, where $c \neq 0$, are equal, then:
- (A) c and a have opposite signs
 - (B) c and b have opposite signs
 - (C) c and a have the same sign
 - (D) c and b have the same sign
10. The number of polynomials having zeroes as -2 and 5 is:
- (A) 1
 - (B) 2
 - (C) 3
 - (D) more than 3

Chapter 3: Pair of Linear Equations in Two Variables

11. The pair of equations $x + 2y + 5 = 0$ and $-3x - 6y + 1 = 0$ have:
- (A) a unique solution
 - (B) exactly two solutions
 - (C) infinitely many solutions
 - (D) no solution
12. If a pair of linear equations is consistent, then the lines will be:
- (A) parallel
 - (B) always coincident
 - (C) intersecting or coincident
 - (D) always intersecting
13. The value of c for which the pair of equations $cx - y = 2$ and $6x - 2y = 3$ will have infinitely many solutions is:
- (A) 3
 - (B) -3
 - (C) -12
 - (D) no value
14. The father's age is six times his son's age. Four years hence, the age of the father will be four times his son's age. The present ages (in years) of the son and the father are, respectively:
- (A) 4 and 24
 - (B) 5 and 30
 - (C) 6 and 36
 - (D) 3 and 24
15. The pair of equations $x = a$ and $y = b$ graphically represents lines which are:
- (A) parallel
 - (B) intersecting at (b, a)
 - (C) coincident
 - (D) intersecting at (a, b)

Chapter 4: Quadratic Equations

16. Which of the following is a quadratic equation?
- (A) $x^2 + 2x + 1 = (4 - x)^2 + 3$
 - (B) $-2x^2 = (5 - x)(2x - \frac{2}{5})$
 - (C) $(k + 1)x^2 + \frac{3}{2}x = 7$, where $k = -1$

- (D) $x^3 - x^2 = (x - 1)^3$
17. The roots of the quadratic equation $x^2 - 0.04 = 0$ are:
- (A) ± 0.2
(B) ± 0.02
(C) 0.4
(D) 2
18. If $\frac{1}{2}$ is a root of the equation $x^2 + kx - \frac{5}{4} = 0$, then the value of k is:
- (A) 2
(B) -2
(C) $\frac{1}{4}$
(D) $\frac{1}{2}$
19. Values of k for which the quadratic equation $2x^2 - kx + k = 0$ has equal roots is:
- (A) 0 only
(B) 4
(C) 8 only
(D) 0, 8
20. The quadratic equation $2x^2 - \sqrt{5}x + 1 = 0$ has:
- (A) two distinct real roots
(B) two equal real roots
(C) no real roots
(D) more than 2 real roots

Chapter 5: Arithmetic Progressions (AP)

21. In an AP, if $d = -4$, $n = 7$, $a_n = 4$, then a is:
- (A) 6
(B) 7
(C) 20
(D) 28
22. The 11th term of the AP: $-5, \frac{-5}{2}, 0, \frac{5}{2}, \dots$ is:
- (A) -20
(B) 20
(C) -30
(D) 30

23. The sum of first 16 terms of the AP: $10, 6, 2, \dots$ is:
- (A) -320
 - (B) 320
 - (C) -352
 - (D) -400
24. If the first term of an AP is -5 and the common difference is 2 , then the sum of the first 6 terms is:
- (A) 0
 - (B) 5
 - (C) 6
 - (D) 15
25. Which term of the AP: $21, 42, 63, 84, \dots$ is 210 ?
- (A) 9th
 - (B) 10th
 - (C) 11th
 - (D) 12th

Chapter 8: Introduction to Trigonometry

26. If $\cos A = \frac{4}{5}$, then the value of $\tan A$ is:
- (A) $\frac{3}{5}$
 - (B) $\frac{3}{4}$
 - (C) $\frac{4}{3}$
 - (D) $\frac{5}{3}$
27. The value of $\frac{1 - \tan^2 45^\circ}{1 + \tan^2 45^\circ}$ is:
- (A) $\tan 90^\circ$
 - (B) 1
 - (C) $\sin 45^\circ$
 - (D) 0
28. If $\sin A = \frac{1}{2}$, then the value of $\cot A$ is:
- (A) $\sqrt{3}$
 - (B) $\frac{1}{\sqrt{3}}$
 - (C) $\frac{\sqrt{3}}{2}$
 - (D) 1
29. Given that $\sin \theta = \frac{a}{b}$, then $\cos \theta$ is equal to:

- (A) $\frac{b}{\sqrt{b^2-a^2}}$
 (B) $\frac{b}{a}$
 (C) $\frac{\sqrt{b^2-a^2}}{b}$
 (D) $\frac{a}{\sqrt{b^2-a^2}}$

30. The value of $(\sin 30^\circ + \cos 30^\circ) - (\sin 60^\circ + \cos 60^\circ)$ is:

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

Answer Key

Q. No.	Ans	Q. No.	Ans	Q. No.	Ans	Q. No.	Ans	Q. No.	Ans
1	D	7	C	13	D	19	D	25	B
2	B	8	B	14	C	20	C	26	B
3	A	9	C	15	D	21	D	27	D
4	B	10	D	16	D	22	B	28	A
5	A	11	D	17	A	23	A	29	C
6	B	12	C	18	A	24	A	30	B

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