

National Education Society's High School
Bhandup (w) Mumbai - 400 078

STD :- X Div: _____
ROLL NO. :- _____

SUB:- Mathematics - I
No. of Pages: 03

MARKS :- 20
TIME :- 1 hr

Supervisor's Sign. _____

Q I. Choose the correct alternative answer for each of the following sub-questions & write the correct option in the box :-

- 1) For drawing the graph of $4x + 5y = 19$, if $x = 1$, what is the value of y ?
(a) 4 (b) 3 (c) 2 (d) -3
- 2) For simultaneous equations in x and y , if $Dx = 49$, $Dy = -63$ and $D = 7$, then what is the value of x ?
(a) 7 (b) -7 (c) $\frac{1}{7}$ (d) $-\frac{1}{7}$
- 3) If $a \neq b$ in the simultaneous equations $ax + by = c$ and $mx + ny = d$, then the given equations have _____
(a) only one solution
(b) no solution
(c) infinite number of solutions
(d) only two solutions
- 4) What is the value of k , if $(k, 5)$ is the solution of the simultaneous equations $4x + 3y = 19$ and $4x - 3y = -11$?
(a) 4 (b) $-\frac{1}{3}$ (c) 5 (d) 1
- 5) What is the value of D for the simultaneous equations $3x - 2y = 6$ and $2x + y = 11$?
(a) 1 (b) -1 (c) 7 (d) -7
- 6) What is the value of Dx for the simultaneous equations $3x + 2y + 11 = 0$ and $7x - 4y = 9$?
(a) 26 (b) -26 (c) 62 (d) -62
- 7) What is the value of Dy for the simultaneous equations $3x + y = 1$ and $2x - 11y = 3$?
(a) -14 (b) 14 (c) -7 (d) 7

8) For simultaneous equations in x and y , if $D_x = 39$, $D_y = 26$ and $D = 13$, then what is the value of x ?

- (a) 3 (b) $\frac{1}{3}$ (c) 2 (d) $\frac{1}{2}$

9) For simultaneous equations in x and y , if $D = 30$, $D_x = -18$, $D_y = -12$, then what is the value of y ?

- (a) $-\frac{3}{5}$ (b) $\frac{3}{5}$ (c) $-\frac{2}{5}$ (d) $\frac{2}{5}$

10) Except which value of k does the simultaneous equations $5 - kx = 10y$ and $x + 15y = -1$ have a unique solution ?

- (a) $\frac{3}{2}$ (b) $-\frac{3}{2}$ (c) $-\frac{2}{3}$ (d) $\frac{2}{3}$

11) Which of the following is a quadratic equation ?

- (a) $\frac{5}{x} - 3 = x^2$ (b) $x(x + 5) = 2$
 (b) $n - 1 = 2n$ (c) $\frac{1}{x^2}(x + 2) = x$

12) Which of the following is the value of k if the roots of $x^2 + kx + k = 0$ are real and equal ?

- (a) 0 (b) 4 (c) 0 or 4 (d) 2

13) Which of the following equations has roots 3 and 5 ?

- (a) $x^2 - 15x + 8 = 0$ (b) $x^2 - 8x + 15 = 0$
 (c) $x^2 + 3x + 5 = 0$ (d) $x^2 + 8x - 15 = 0$

14) Which of the following equations has the sum of the roots - 5 ?

- (a) $3x^2 - 15x + 3 = 0$ (b) $x^2 - 5x + 3 = 0$
 (c) $x^2 + 3x - 5 = 0$ (d) $x^2 + 8x - 15 = 0$

15) One of the roots of the equation $x^2 + mx - 5 = 0$ is 2. Find m ?

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

16) Which of the following is the value of the discriminant for

$$2x^2 + 5\sqrt{3}x + 6 = 0.$$

- (a) 27 (b) 123 (c) $25\sqrt{3} - 48$ (d) 72

...3...

17) For which of the following equations is $(\alpha + \beta) = 5$?

(a) $2x^2 + 10x + 25 = 0$ (b) $x^2 - 10x + 25 = 0$

(c) $3x^2 + 15x - 16 = 0$ (d) $3x^2 - 15x + 16 = 0$

18) What is the nature of the roots of the quadratic equation $9x^2 + 25 = 30x$?

- (a) Real (b) Not real
(c) Real and equal (d) Real and Unequal

19) What is the nature of the roots of the quadratic equation $4x^2 - 8x + 9 = 0$?

- (a) Real (b) Not real
(c) Real and equal (d) Real and Unequal

20) If one of the roots of the quadratic equation $kx^2 + 2x - 8 = 0$ is -2 , then what is the value of k ?

- (a) 2 (b) 3 (c) 1 (d) 4
