

Adabistan-e-Soophia

Code: 2001

Test No: 1

Paper: Mathematics

Name: _____

Class: X Sec: _____

Syllabus: Ch. 1, 9 (Theorem 2)

Question Numbers	1	2	3	4		Total	Grade	%age
Maximum Marks	08	16	08	08		40		
Marks Obtained								
Remarks:	_____ _____							

Time Allowed: 15 mins

(Objective Type)

Max. Marks: 08

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Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink. Cutting or filling two or more times result in zero mark in that question.

Q.1	Questions	(A)	(B)	(C)	(D)
1	Standard form of quadratic equation is _____.	$bx + c = 0, b \neq 0$	$ax^2 = bx, a \neq 0$	$ax^2 + bx + c = 0, a \neq 0$	$ax^2 = 0, a \neq 0$
2	The number of methods to solve the quadratic equation is:	1	2	3	4
3	Two linear factors of $x^2 - 15x + 56$ are:	$(x - 7)(x + 8)$	$(x + 7)(x - 8)$	$(x + 7)(x + 8)$	$(x - 7)(x - 8)$
4	The solution set of $4x^2 - 16 = 0$ is:	$\{\pm 4\}$	$\{4\}$	$\{\pm 2\}$	± 2
5	An equation of type $3^x + 3^{2-x} + 6 = 0$ is a:	exponential equation	radical	reciprocal	none of these
6	The number of terms in a standard quadratic equation $ax^2 + bx + c = 0$ is:	1	2	3	4
7	$x^2 - 16 = 0$ is a _____ equation.	standard	pure	linear	none of these
8	The quadratic formula is	$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	$\frac{-b - \sqrt{b^2 - 4ac}}{2}$	$\frac{-b \pm \sqrt{b^2 + 4ac}}{2a}$	$\frac{b^2 \pm \sqrt{b^2 + 4ac}}{2a}$
9	An equation of the form $2x^4 - 3x^3 + 7x^2 - 3x + 2 = 0$ is called _____.	reciprocal equation	radical equation	exponential equation	none of these

Q.1	Questions	(A)	(B)	(C)	(D)
10	An equation which remains unchanged when x replaced by $\frac{1}{x}$ is called _____.	exponential equation	reciprocal equation	radical equation	none of these
11	The solution of $25x^2 = 1$ is _____	$\{\pm \frac{1}{5}\}$	$\{\frac{1}{5}\}$	$\{-\frac{1}{5}\}$	$\{5, 1\}$
12	When variable occur is exponents is called _____ equation.	exponential	radical	reciprocal	none of these
13	An equation of the form $2^{2x} - 3 \cdot 2^x + 5 = 0$ is called _____ equation	exponential	radical	reciprocal	none of these
14	$\sqrt{x+3} = \sqrt{2x+3}$ is called a _____ equation.	exponential	radical	reciprocal	none of these
15	The solution set of $4x^2 = 7$ is:	$\{2, 7\}$	$\{7, 5\}$	$\{\pm \frac{\sqrt{7}}{2}\}$	$\{\pm \frac{7}{4}\}$
16	$2x^2 + 2x + 1 = 0$ is called _____.	pure quadratic equation	quadratic equation	linear equation	none of these

Time Allowed: 75 minutes

(Subjective Type)

Max. Marks: 32

(Section - I)

2. Attempt the following questions.

(8×2=16)

- i. Write into the standard form. $\frac{x}{x+1} + \frac{x+1}{x} = 6$
- ii. What is reciprocal equation?
- iii. Solve by quadratic formula $2 - x^2 = 7x$
- iv. Solve by factorization $5x^2 = 15x$
- v. Define radical equation.
- vi. Write the names of methods to solve the quadratic equation.
- vii. Solve $\left(2x - \frac{1}{2}\right)^2 = \frac{9}{4}$
- viii. Solve the equation $\sqrt{x+1} + \sqrt{x-2} = \sqrt{x+6}$

(Section - II)

Note: Solve the following questions.

(8×2=16)

3. (a) Solve by completing square $3x^2 + 7x = 0$ (4)
(b) Solve $2^x + 64 \cdot 2^{-x} - 20 = 0$ (4)
4. Prove that A straight line, drawn from the centre of a circle to bisect a chord (which is not a diameter) is perpendicular to the chord. (8)