

Adabistan-e-Soophia

Test Session (2020 – 21)

Code: 1059

Test No.: 10

Paper: Mathematics

Name: _____

Class: IX Sec: _____

Syllabus: Ch. 4, 7, 15, 16, 17

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.	$3x^2 + 8x + 5$ is an algebraic _____.	expression	sentence	equation	inequation
2.	The degree of polynomial $4x^4 + 2x^2y$ is _____.	1	2	3	4
3.	$a^3 - b^3 =$ _____.	$(a - b)(a^2 + ab + b^2)$	$(a + b)(a^2 - ab + b^2)$	$(a - b)(a^2 - ab + b^2)$	$(a - b)(a^2 + ab - b^2)$

Q.1	Questions	(A)	(B)	(C)	(D)
4.	$(3 + \sqrt{2})(3 - \sqrt{2}) = \underline{\hspace{2cm}}$.	-7	7	-1	1
5.	Conjugate of surd $a + \sqrt{b}$ is $\underline{\hspace{2cm}}$.	$-a + \sqrt{b}$	$a - \sqrt{b}$	$\sqrt{a} + \sqrt{b}$	$\sqrt{a} - \sqrt{b}$
6.	$\frac{1}{a+b} - \frac{1}{a-b} = \underline{\hspace{2cm}}$.	$\frac{2a}{a^2 - b^2}$	$\frac{2b}{a^2 - b^2}$	$\frac{-2a}{a^2 - b^2}$	$\frac{-2b}{a^2 - b^2}$
7.	$\frac{a^2 - b^2}{a - b} = \underline{\hspace{2cm}}$.	$(a - b)^2$	$(a + b)^2$	$a + b$	$a - b$
8.	$\sqrt{5x - 7} - \sqrt{x + 10} = 0$ then $x = \underline{\hspace{2cm}}$.	$\frac{17}{4}$	$\frac{15}{4}$	$\frac{4}{17}$	$\frac{4}{15}$
9.	If y is no longer than 49, then:	$y \geq 50$	$y \leq 49$	$y < 49$	$y > 49$
10.	If the capacity c of an elevator is at most 2000 pounds, then $\underline{\hspace{2cm}}$.	$c < 2000$	$c \geq 2000$	$c \leq 2000$	$c > 2000$
11.	Congruent figures have $\underline{\hspace{2cm}}$ area.	congruent	same	equal	both (A) & (C)
12.	The hypotenuse of an isosceles right triangle is $\sqrt{2}$ cm, then each of the other side is $\underline{\hspace{2cm}}$.	2 cm	2 cm ²	$\sqrt{2}$ cm	1 cm
13.	The line segment joining a vertex of a triangle to the midpoint of its opposite side is called a / an:	median	altitude	congruent	concurrent
14.	The right bisectors of the three sides of a triangle are:	congruent	collinear	concurrent	parallel
15.	The $\underline{\hspace{2cm}}$ altitudes of an isosceles triangle are congruent.	two	three	four	none of these
16.	If three altitudes of a triangle are congruent, then the triangle is $\underline{\hspace{2cm}}$.	equilateral	right angled	isosceles	acute angled

(Section - I)

2. Attempt the following questions.

(8×2=16)

- i. Simplify: $\frac{1}{2+\sqrt{3}} + \frac{2}{\sqrt{5}-\sqrt{3}} + \frac{1}{2+\sqrt{5}}$
- ii. Simplify: $(\sqrt{x} + \sqrt{y})(\sqrt{x} - \sqrt{y})(x + y)(x^2 + y^2)$
- iii. Solve equation: $\frac{x}{3x-6} = 2 - \frac{2x}{x-2}$
- iv. Solve equation: $\sqrt[3]{2x-4} - 2 = 0$
- v. State Pythagora's Theorem.
- vi. Define triangular region.
- vii. Construct a right-angle isosceles triangle whose hypotenuse is 5.4 cm.
- viii. Define orthocentre.

(Section - II)

Note: Solve the following questions.

(8×2=16)

3. (a) Simplify: $\frac{\sqrt{a^2+2}+\sqrt{a^2-2}}{\sqrt{a^2+2}-\sqrt{a^2-2}}$ (4)

(b) Construct $\triangle ABC$. Draw bisectors of its angles and verify their concurrency $mAB = 4.2$ cm

$m\overline{BC} = 6$ cm and $m\overline{CA} = 5.2$ cm (4)

4. (a) Solve the equation: $\frac{2}{3x+6} = \frac{1}{6} - \frac{1}{2x+4}$ $x \neq -2$ (4)

(b) If $q = \sqrt{5} + 2$, then find the values of $q - \frac{1}{q}$ and $q^2 + \frac{1}{q^2}$. (4)