THE WISDOM ACADEMY

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Class: 9th **Test#01: Math** **Total Marks: 40** **Chap#01**

Student Name: _____ **Roll No:** _____

Q: 01 Encircle the correct option: (1x10)

1	$\sqrt[n]{a^m}$ can be written as	**a)** $a^{\frac{n}{m}}$	**b)** $a^{\frac{m}{n}}$	**c)** a^{mn}	**d)** a^{m-n}
2	$\frac{6}{\sqrt{3}} = ?$	**a)** $2\sqrt{3}$	**b)** $\sqrt[2]{3}$	**c)** $6\sqrt{3}$	**d)** $\sqrt[6]{3}$
3	What is the value of $(\sqrt{3}+\sqrt{2})(\sqrt{3}-\sqrt{2})$	**a)** 5	**b)** $\sqrt{5}$	**c)** $\sqrt{6}$	**d)** 1
4	$\frac{1}{2-\sqrt{3}} = ?$	**a)** $2-\sqrt{3}$	**b)** $-2+\sqrt{3}$	**c)** $-2-\sqrt{3}$	**d)** $2+\sqrt{3}$
5	$\sqrt{3}+\sqrt{5}$ is:	**a)** Whole Number	**b)** Integer	**c)** Rational Number	**d)** Irrational Number
6	$2^x \times 8^x = 64$ then x=?	**a)** $\frac{2}{3}$	**b)** $\frac{3}{4}$	**c)** $\frac{5}{6}$	**d)** $\frac{3}{2}$
7	$\sqrt{75}+\sqrt{27} = ?$	**a)** $\sqrt{102}$	**b)** $9\sqrt{3}$	**c)** $5\sqrt{3}$	**d)** $8\sqrt{3}$
8	Every surd is an rational number but every irrational number is:	**a)** a surd	**b)** not a surd	**c)** may or may not be surd	**d)** none of these
9	If $x = 4-\sqrt{17}$ then $\frac{1}{x} = ?$	**a)** $4\sqrt{5}$	**b)** **-4-**$\sqrt{17}$	**c)** **4+**$\sqrt{17}$	**d)** **4-**$\sqrt{17}$
10	$\frac{1}{4}$ is known as:	**a)** non terminating decimal	**b)** terminating decimal	**c)** Both A and B	**d)** None of these

Q: 02 Write the Answers of these Short Questions: (2x10)

1) Represent the following on the real line: (1) $4\frac{1}{3}$ (2) $\frac{5}{8}$

2) Express the $0.\overline{4}$ as $\frac{p}{q}$?

3) Insert the two rational number between 3 and 4?

4) Define radical Expression and give example?

5) Rationalize the denominator of: (1) $\frac{\sqrt{2}-1}{\sqrt{5}}$ (2) $\frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$

6) Simplify the following: $(\frac{3}{4})^{-2} \div (\frac{4}{9})^{3} \times \frac{16}{27}$

7) Simplify the following: $\sqrt[5]{\frac{x^{15}\,y^{35}}{z^{20}}}$

8) If $x = 3+\sqrt{8}$ then find the value of: $x^4 - \frac{1}{x^4}$

9) Simplify the following: $\frac{(25)^{\frac{3}{2}} \times (243)^{\frac{3}{5}}}{(16)^{\frac{5}{4}} \times (8)^{\frac{4}{3}}}$

10) Define rational Numbers?

Q: 03 Attempt these long Questions: (5x2)

A) **F**ind the rational number p and q such that $\frac{8-3\sqrt{2}}{4+3\sqrt{2}} = p + q\sqrt{2}$

B) Simplify: $\sqrt{\frac{(216)^{\frac{2}{3}} \times (25)^{\frac{1}{2}}}{(0.04)^{\frac{-3}{2}}}}$