INDIAN SCHOOL AL WADI AL KABIR

Class IX, Worksheet - Mathematics, 06-04-20

Topic: Topic: Number System (MCQ & Descriptive)

1.	The value of $4\sqrt{28} \div 3\sqrt{7}$ is : (a) $\frac{8}{3}$ (b) $\frac{16}{3}$ (c) $\frac{24}{3}$ (d) $\frac{18}{3}$	a
2.	If $x = \frac{\sqrt{7}}{5}$ and $5/x = p\sqrt{7}$ then the value of p is : (a) $\frac{5}{\sqrt{7}}$ (b) $\frac{25}{7}$ (c) $\frac{7}{25}$ (d) $\frac{\sqrt{7}}{5}$	b
3.	If $b > 0$ and $b^2 = a$ then $\sqrt{a}$ is equal to : (a) -b (b) b (c) $\sqrt{b}$ (d) b^2	b
4.	$(a + \sqrt{b})(a - \sqrt{b})$ is equal to : (a) $b^2 - a^2$ (b) $a^2 - b^2$ (c) $a^2 - b$ (d) $b^2 - a$	c
5.	The number $(\sqrt{2} + \sqrt{5})^2$ is : (a) not a real number (b) rational number (c) an integer (d) irrational number	d
6.	Which of the following is not a rational number? (a) $\sqrt{2}$ (b) 0 (c) $\sqrt{4}$ (d) $\sqrt[3]{125}$	a
7.	The simplest rationalizing factor of $\frac{1}{\sqrt{50}}$ is ….	$\sqrt{2}$
8.	The quotient obtained when $\sqrt{1500}$ is divided by $2\sqrt{15}$ is …..	5
9.	Find two irrational numbers between 0.5 and 0.55	
10.	Find any two irrational numbers between $\frac{1}{3}$ and $\frac{1}{2}$.	
11.	Find the value of p if $5^{p-3} \times 3^{2p-8} = 225$.	5

12.	Find the value of $729^{\frac{-1}{6}}$.	$\frac{1}{3}$
13.	Simplify $(4\sqrt{5} - 3\sqrt{2})(4\sqrt{5} + 3\sqrt{2})$	62
14.	Represent $\sqrt{7.5}$ geometrically on the number line.	
15.	Show that $0.2\overline{35}$ can be expressed in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.	$\frac{233}{990}$
16.	Represent $\sqrt{3}$ on the number line.	
17.	Simplify: $\frac{3\sqrt{2}}{\sqrt{6}-\sqrt{3}} - \frac{4\sqrt{3}}{\sqrt{6}-\sqrt{2}} + \frac{2\sqrt{3}}{\sqrt{6}+2}$	0
18.	Prove that $\frac{1}{\sqrt{4}+\sqrt{5}+} + \frac{1}{\sqrt{5}+\sqrt{6}} + \frac{1}{\sqrt{6}+\sqrt{7}} + \frac{1}{\sqrt{7}+\sqrt{8}} + \frac{1}{\sqrt{8}+\sqrt{9}} = 1.$	
19.	Evaluate $(\sqrt{5} + 2\sqrt{2})^2 - (\sqrt{5} - \sqrt{8})^2$.	$8\sqrt{10}$
20.	Find the value of a and b if $a + b\sqrt{15} = \frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}$.	a=4, b=1
21.	Represent $\sqrt{5}$ on the number line.	
22.	Simplify the following by rationalizing the denominator $\frac{7\sqrt{3}-5\sqrt{2}}{\sqrt{48}+\sqrt{18}}$. Ans: $\frac{114-41\sqrt{6}}{30}$	
23.	Prove that $\frac{1}{1+\sqrt{2}} + \frac{1}{\sqrt{2}+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{4}} + \ldots\ldots\ldots + \frac{1}{\sqrt{8}+\sqrt{9}} = 2.$	
24.	Represent $\sqrt{2}$ on the number line.	
25.	Simplify $\sqrt[4]{81} - 8.\sqrt[3]{216} + 15.\sqrt[5]{32} + \sqrt{225}$.	0