Number System

Revision Worksheet

IX - Class Date : 17/04/25

(1) If $x = 9 + 4\sqrt{5}$, find the value of

$$\sqrt{x} + \frac{1}{\sqrt{x}}$$

(2) If $x = 2 + \sqrt{3}$, then the value of $\frac{1}{x}$ is :

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

(3) If $a = 2$ and $b = 3$, find the value of $(a^{2b} + b^{a})^{-2}$

(4) Which one of the following will be terminating decimal no. ?

(a) $\frac{14}{15}$ (b) $\frac{7}{48}$ (c) $\frac{15}{20}$ (d) $\frac{5}{9}$

(5) Which one of the following value of x will be irrational ?

(a) $x^2 = 25$ (b) $x^3 = 512$ (c) $x^4 = 256$

(d) $x^3 = 5$

(6) Find the value of the following expression :-

$$8^{2/3} - \sqrt{9} \cdot (10)^0 + \left(\frac{1}{144}\right)^{-1/2}$$

(7) If $\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}} = a + b\sqrt{15}$, find the values of a and b.

(8) Simplify:

(i) $\left[\left(625^{-\frac{1}{2}}\right)^{-\frac{1}{4}}\right]^{2}$

(ii) $\left(\frac{81}{16}\right)^{-3/4} \times \left[\left(\frac{25}{9}\right)^{-3/2} \div \left(\frac{5}{2}\right)^{-2}\right]$