



## ASSIGNMENT

### Chapter – 1 (NUMBER SYSTEM)

#### CLASS – IX

1. Find two rational numbers between 1 and 2. (1)
2. The rationalizing factor of  $7 - 2\sqrt{3}$  (1)
3. The square root of which number is rational  
(a) 7 (b) 1.96 (c) 0.04 (d) 13 (1)
4. On dividing  $6\sqrt{27}$  by  $2\sqrt{3}$  we get  
(a)  $3\sqrt{3}$  (b) 6 (c) 9 (d) none of these (1)
5. Which of the following is irrational?  
(a) 0.14 (b)  $0.\overline{1416}$  (c)  $0.14\overline{16}$  (d) 0.4014001400014... (1)
6. Simplify  $(3\sqrt{5} - 5\sqrt{2})(4\sqrt{5} + 3\sqrt{2})$  (2)
7. If  $a = 2 + \sqrt{3}$ , then find the value of  $a - \frac{1}{a}$  (2)
8. Simplify  $\sqrt{45} - 3\sqrt{20} + 4\sqrt{5}$  (2)
9. Locate  $\sqrt{13}$  on the number line (3)
10. Express  $0.12\overline{3}$  in the form  $p/q$  where  $p$  and  $q$  are integers and  $q \neq 0$ . (3)
11. Find the values of  $a$  and  $b$   
$$\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = a - b\sqrt{3}$$
 (3)
12. If  $x = 3 + \sqrt{8}$ , find the value of  $x^2 + \frac{1}{x^2}$ . (3)
13. Prove that :  $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-\sqrt{4}} = 5$  (4)
14. If,  $x = \frac{\sqrt{3}+1}{2}$ , find the value of  $4x^3 + 2x^2 - 8x + 7$ . (4)
15. If  $a = 5 + 2\sqrt{6}$  and  $b = 1/a$ , then find the value of  $a^2 + b^2$ . (4)