

Class - IX

Holiday Homework

Worksheet - Chapter - Real Numbers

# CHAPTER EXERCISE

## Very Short Answer Type Questions

[1 Mark each]

1. How many integers are there between two successive integers?
2. Find a rational number between  $\frac{1}{3}$  and  $\frac{2}{3}$ .
3. What is the nature of the decimal expansion of the number  $\sqrt{2}$ ?
4. Write the number  $\frac{3}{10}$  in decimal form and also find what kind of decimal expansion it has?
5. What is the representation of the decimal number  $0.\bar{3}$  in the form  $\frac{p}{q}$  of rational number?
6.  $\pi$  is an irrational. Is it true?
7. Square roots of positive integers are rational. Is it true?
8. On the number line,  $-\sqrt{7}$  can be located before locating  $-\sqrt{6}$ . Is it true?
9. Simplify  $\frac{1}{3 + \sqrt{5}}$ .
10. Divide  $(\sqrt{3} + \sqrt{7})$  by  $(\sqrt{3} - \sqrt{7})$ .
11. Evaluate  $\frac{6}{\sqrt{12} - \sqrt{3}}$ .
12. Simplify the expression  $(4\sqrt{5} - 3\sqrt{2})(3\sqrt{5} + 5\sqrt{2})$ .
13. Simplify  $(25)^{1/3} \times (5)^{1/3}$ .
14. Find the value of  $\frac{\sqrt[4]{16}}{\sqrt[4]{81}}$ .

## Short Answer Type I Questions

[2 Marks each]

15. Find two rational numbers between 5 and 6.
16. Find two irrational numbers between  $\frac{3}{7}$  and  $\frac{6}{11}$ .
17. Express  $0.\bar{06}$  as a rational number in the form  $\frac{p}{q}$ , where  $p, q \in \mathbb{Z}$  and  $q \neq 0$ .
18. Simplify  $\frac{1}{\sqrt{5} + \sqrt{3}} + \frac{1}{2}(\sqrt{5} - \sqrt{3})$ .
19. Simplify  $\frac{7 + \sqrt{3}}{7 - \sqrt{3}} + \frac{7 - \sqrt{3}}{7 + \sqrt{3}}$ .
20. What is the value of  $\sqrt[4]{(81)^{-2}}$ ?
21. Find the value of  $m^{a-b} \times m^{b-c} \times m^{c-a}$ .
22. Find the value of  $(1^3 + 2^3 + 3^3)^{-3/2}$ .
23. Simplify  $\left(\frac{81}{625}\right)^{1/4}$ .
24. If  $(5)^{x-3} \times (3)^{2x-8} = 225$ , then find the value of  $x$ .
25. Evaluate  $\left(\frac{8}{27}\right)^{2/3} + (32)^{-2/5}$ .
26. If  $z = 0.064$ , then find the value of  $\left(\frac{1}{z}\right)^{1/3}$ .

## Short Answer Type II Questions

[3 Marks each]

27. Find three rational numbers between 10 and 12.
28. Find the sum of  $2.\bar{3}$  and  $4.\bar{15}$ .
29. Express  $98.\bar{376}$  in the form of  $\frac{p}{q}$ , where  $p, q$  are integers and  $q \neq 0$ .
30. Represent  $\sqrt{7.6}$  on the number line.
31. If  $x = 2 + \sqrt{3}$ , then find the value of  $x + \frac{1}{x}$ .
32. If  $x = 4 + \sqrt{15}$ , then find the value of  $\left(x + \frac{1}{x}\right)^2$ .
33. Find the value of  $(16)^{0.16} \times (16)^{0.09}$ .