

## CHAPTER 07

## Cubes and Cube Roots

**Cube roots:**

A number ‘m’ is the cube root of a number ‘n’ if  $n = m^3$ .

The symbol of cube root is “ $\sqrt[3]{\quad}$ ”.

If  $n = m^3$ , then  $m = \sqrt[3]{n}$ .

$\sqrt[3]{n}$  is also called a radical.

Here,

n = Radicand

3 = Index of the radical

**Example:**

(i)  $3^3 = 3 \times 3 \times 3 = 27 \Rightarrow \sqrt[3]{27} = \sqrt[3]{3 \times 3 \times 3} = 3$

(ii)  $5^3 = 5 \times 5 \times 5 = 125 \Rightarrow \sqrt[3]{125} = \sqrt[3]{5 \times 5 \times 5} = 5$

Following table provide all the perfect cubes up to 10000 and their cube roots:

m	Cube ( $n = m^3$ )	Cube root ( $\sqrt[3]{n} = m$ )
1	$1^3=1$	$\sqrt[3]{1} = 1$
2	$2^3=8$	$\sqrt[3]{8} = 2$
3	$3^3=27$	$\sqrt[3]{27} = 3$
4	$4^3=64$	$\sqrt[3]{64} = 4$
5	$5^3=125$	$\sqrt[3]{125} = 5$
6	$6^3=216$	$\sqrt[3]{216} = 6$
7	$7^3=343$	$\sqrt[3]{343} = 7$
8	$8^3=512$	$\sqrt[3]{512} = 8$

9	$9^3=729$	$\sqrt[3]{729}=9$
10	$10^3=1000$	$\sqrt[3]{1000}=10$

