Cube Roots of perfect cubes.

Cube of $5 = 5 \times 5 \times 5 = 125$.

Cube Root of $125 = 5$.

S1: Memorize the table.

Number	Cube.
1	1
2	8
3	27
4	64
5	125
6	216
7	343
8	512
9	729
10	1000

Cube of $2 \rightarrow 8$ & Cube Root of $8 \rightarrow 2$.

If the last digit of Number ends with 1 $\rightarrow$ last digit of Cube Root - 1.

last digit ends with 2 $\rightarrow$ last digit of Cube Root - 8

etc.

Summarized below :

Last digit of Cube	Last digit of Cube root
1	1
2	8
3	7
4	4
5	5
6	6
7	3
8	2
9	9
0	0

Except for the pairs of 3, 7 & 8, 2 all other Numbers end with the same numbers.

* When a no. is given to find the cube root put slash before last 3 digits

Eg: 103|823.

39304 ⇒ 39|304.

Regardless of any no. of digits, pull slash before last 3 digits.

Solving the cube Roots

NO.	1	2	3	4	5	6	7	8	9	10
cube	1	8	27	64	125	216	343	512	729	1000.

Cube Root - Solved in 2 parts

LHS & RHS.

② ①

Q. Find the cube root of 287496.

S1: Reps. 287 | 496.

S2: NO. ends with. 6, last digit is 6 (RHS).

S3: To find LHS, Take 287.

check for two perfect cubes for 287 (closer)

i.e. 216 & 343.

(6) 7.

= =

Take Smallest NO. & apply. i.e. 6 (LHS).

Hence Answer (Cube root of 287496) = 66.

Q. Find the cube root of 205379

① 205 | 379.

② Ends with 9, ∴ RHS = 9

③ 205 - between ~~64~~ 125
4 5.

125 216
5 6

Take least No. 5 (LHS)

Ans: 59

Q. Find the cube root of 681 | 472.

RHS = 8

681 → 512 729
8 9
(LHS).

Ans: 88

Q. Find the cube root of 830 | 584.

RHS = 4.

729 1000. ⇒ 94
1 9
(LHS)

Q. Find the cube Root of 2197 = 13.

RHS = 3 (for 7).

0 & 1 & 8

LHS.

* Concept of solving cube root remains same & only chance is to get the number line extension.

Number	9	10	11	12	13
Cube	729	1000	1331	1728	2197

Q. Find the cube root of 1157625

1157 | 625

↙ ↓

lies between. RHS. = 5

1000 & 1331. 105

(10) (11)

↓

LHS.

Q. Find the cube root of 1404928

1404 | 928

↓ ↓

1331 & 1728. LHS = 2

(11) (12). 112

↓

(RHS).

* Comparision with conventional method.

PART A

Q.(1) Find the cube roots of the following numbers.

(1) 970299

(2) 658503

(3) 314432

(4) 110592

(5) 46656

(6) 5832

(7) 421875

(8) 1030301

PART B

Q(2) Find the cube roots of the following numbers.

(1) 132651

(2) 238328

(3) 250047

(4) 941192

(5) 474552

(6) 24389

(7) 32768

(8) 9261