

Exercise - 4(A)

(1) Find the cube of:-

$$\begin{aligned} \text{(i)} \quad & 7 \\ & = (7)^3 = 7 \times 7 \times 7 \\ & = 343 \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & 11 \\ & = (11)^3 = 11 \times 11 \times 11 \\ & = 1331 \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & 16 \\ & = (16)^3 = 16 \times 16 \times 16 \\ & = 4096 \end{aligned}$$

$$\begin{aligned} \text{(iv)} \quad & 23 \\ & = (23)^3 = 23 \times 23 \times 23 \\ & = 12167 \end{aligned}$$

$$\begin{aligned} \text{(v)} \quad & 31 \\ & = (31)^3 = 31 \times 31 \times 31 \\ & = 29791 \end{aligned}$$

$$\begin{aligned} \text{(vi)} \quad & 42 \\ & = (42)^3 = 42 \times 42 \times 42 \\ & = 74088 \end{aligned}$$

$$\begin{aligned} \text{(vii)} \quad & 54 \\ & = (54)^3 \\ & = 54 \times 54 \times 54 \\ & = 157464 \end{aligned}$$

2 Find, which of the following are perfect cube no.?

(i) 243

3	243
3	81
3	27
3	9
	3

So, $3 \times 3 \times 3 \times 3 \times 3 = (3)^3 \times (3)^2$

∴ Thus, 3 is not in a triplet form, So, 243 isn't a cube number.

(ii) 588

2	588
2	294
3	147
7	49
	7

So, $2 \times 2 \times 3 \times 7 \times 7 = (2)^2 \times 3 \times (7)^2$

None of the numbers are in triplet
∴ Thus, This isn't a cube number.

(iii) 1331

11	1331
11	121
	11

So, $11 \times 11 \times 11 = (11)^3$

These are in triplet.
∴ Thus, this is a cube number.

(iv) 1938

2	1938
3	969
17	323
19	19
	1

So, $2 \times 3 \times 17 \times 19$
None of the triplets are there.
∴ Thus, This is not a cube no.

(3) Find the cubes of:-

(v) 0.12

$$= (0.12)^3$$

$$= \left[\frac{12}{100} \right]^3 = \frac{12 \times 12 \times 12}{100 \times 100 \times 100}$$

$$= \frac{1728}{1000000} = 0.001728$$

(vi) 0.02

$$= (0.02)^3$$

$$= \left[\frac{2}{100} \right]^3 = \frac{2 \times 2 \times 2}{100 \times 100 \times 100}$$

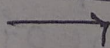
$$= \frac{8}{1000000} = ~~0.0000008~~ 0.0000008$$

(vii) 0.8

$$= (0.8)^3$$

$$= \left[\frac{8}{10} \right]^3 = \frac{8 \times 8 \times 8}{10 \times 10 \times 10}$$

$$= \frac{512}{1000} = 0.512$$



(4) Find the cube of:-

(i) $\frac{3}{7}$

$$= \left(\frac{3}{7}\right)^3$$

$$= \frac{(3)^3}{(7)^3} = \frac{3 \times 3 \times 3}{7 \times 7 \times 7} = \frac{27}{243}$$

(ii) $\frac{8}{9}$

$$= \left(\frac{8}{9}\right)^3$$

$$= \frac{(8)^3}{(9)^3} = \frac{8 \times 8 \times 8}{9 \times 9 \times 9}$$

$$= \frac{512}{729}$$

(iii) $\frac{10}{13}$

$$= \left(\frac{10}{13}\right)^3$$

$$= \frac{(10)^3}{(13)^3} = \frac{10 \times 10 \times 10}{13 \times 13 \times 13}$$

$$= \frac{1000}{2197}$$

$$(iv) 1\frac{2}{7}$$

$$= \left(\frac{9}{7}\right)^3$$

$$= \frac{(9)^3}{(7)^3} = \frac{9 \times 9 \times 9}{7 \times 7 \times 7}$$

$$= \frac{729}{343} = 2\frac{43}{343}$$

$$(v) 2\frac{1}{2}$$

$$= \left(\frac{5}{2}\right)^3$$

$$= \frac{(5)^3}{(2)^3} = \frac{5 \times 5 \times 5}{2 \times 2 \times 2}$$

$$= \frac{125}{8} = 15\frac{5}{8}$$

(5) Find the cubes of :-

$$(i) -5$$

$$= (-5)^3 = (-5) \times (-5) \times (-5)$$

$$= -125$$

$$(ii) -7$$

$$= (-7)^3 = (-7) \times (-7) \times (-7)$$

$$= -343$$

$$(iii) -13$$

$$\begin{aligned}
 &= (-12)^3 \\
 &= (-12) \times (-12) \times (-12) \\
 &= -1728
 \end{aligned}$$

$$\begin{aligned}
 \text{(iv)} \quad &-18 \\
 &= (-18)^3 \\
 &= (-18) \times (-18) \times (-18) \\
 &= -5832
 \end{aligned}$$

$$\begin{aligned}
 \text{(v)} \quad &-25 \\
 &= (-25)^3 \\
 &= (-25) \times (-25) \times (-25) \\
 &= -15625
 \end{aligned}$$

$$\begin{aligned}
 \text{(vi)} \quad &-30 \\
 &= (-30)^3 \\
 &= (-30) \times (-30) \times (-30) \\
 &= -27000
 \end{aligned}$$

$$\begin{aligned}
 \text{(vii)} \quad &-50 \\
 &= (-50)^3 \\
 &= (-50) \times (-50) \times (-50) \\
 &= -125000
 \end{aligned}$$