HW

10/05/21

Exercise - 4(A)

(1) Find the cube of :-

(i) 7

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

$= 343$

(ii) 11

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

$= 1331$

(iii) 16

$= (16)^3 = 16 \times 16 \times 16$

$= 4096$

(iv) 23

$= (23)^3 = 23 \times 23 \times 23$

$= 12167$

(v) 31

$= (31)^3 = 31 \times 31 \times 31$

$= 29791$

(vi) 42

$= (42)^3 = 42 \times 42 \times 42$

$= 74088$

(vii) 54

$= (54)^3$

$= 54 \times 54 \times 54$

$= 157464$

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

There are in triplet.

∴ Thus, this is a cube number.

(vi) 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..

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(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

$= (0.02)^3$

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

$= \frac{8}{1000000} = 0.000008$

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

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

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

$= \frac{1000}{2197}$

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(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) -12

$= (-12)^3$

$= (-12) \times (-12) \times (-12)$

$= -1728$

(iv) -18

$= (-18)^3$

$= (-18) \times (-18) \times (-18)$

$= -5832$

(v) -25

$= (-25)^3$

$= (-25) \times (-25) \times (-25)$

$= -15625$

(vi) -30

$= (-30)^3$

$= (-30) \times (-30) \times (-30)$

$= -27000$

(vii) -50

$= (-50)^3$

$= (-50) \times (-50) \times (-50)$

$= -125000$