Ch-4

11/06/21

Cubes and Cube Roots

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 cubes?

Solution,

(iii) 1331 and v) 1728) are perfect cubes.

3. Find the cubes of :-

i. $2.1 = (2.1)^3$
$= 2.1 \times 2.1 \times 2.1 = 9.261$ (Ans)

(ii) $0.4 = (0.4)^3$
$= 0.4 \times 0.4 \times 0.4$
$= 0.064$ (Ans)

iii. $1.6 = (1.6)^3$
$= 1.6 \times 1.6 \times 1.6$
$= 4.096$ (Ans)

iv. $2.5 = (2.5)^3$
$= 2.5 \times 2.5 \times 2.5 = 15.625$

v. $0.12 = (0.12)^3$
$= 0.12 \times 0.12 \times 0.12$
$= 0.001728$ Ans

vi. $0.02 = (0.02)^3$
$= 0.02 \times 0.02 \times 0.02$
$= 0.000008$ Ans

vii. $0.8 = (0.8)^3$
$= 0.8 \times 0.8 \times 0.8 = 0.512$ Ans.

4. Find the cubes of :-

i. $\frac{3}{7} = \left(\frac{3}{7}\right)^3 = \frac{3}{7} \times \frac{3}{7} \times \frac{3}{7} = \frac{27}{343}$ Ans.

ii. $\frac{8}{9} = \left(\frac{8}{9}\right)^3 = \frac{8}{9} \times \frac{8}{9} \times \frac{8}{9} = \frac{512}{729}$ Ans.

iii. $\frac{10}{13} = \left(\frac{10}{13}\right)^3 = \frac{10}{13} \times \frac{10}{13} \times \frac{10}{13} = \frac{1000}{2197}$ Ans.

iv. $1\frac{2}{7} = \left(\frac{9}{7}\right)^3 = \frac{9}{7} \times \frac{9}{7} \times \frac{9}{7} = \frac{729}{343} = 2\frac{43}{343}$ Ans.

v. $2\frac{1}{2} = \left(\frac{5}{2}\right)^3 = \frac{5}{2} \times \frac{5}{2} \times \frac{5}{2} = \frac{125}{8} = 15\frac{5}{8}$ Ans.

5. Find the cubes of :-

i. $(-3) = (-3)^3 = (-3) \times (-3) \times (-3) = (-27)$ Ans.

ii. $(-7) = (-7)^3 = (-7) \times (-7) \times (-7) = (-343)$ Ans.

iii. $(-12) = (-12)^3 = (-12) \times (-12) \times (-12) = (-1728)$ Ans.

iv. $(-18) = (-18)^3 = (-18) \times (-18) \times (-18) = (-5832)$ Ans.

v. $(-25) = (-25)^3 = (-25) \times (-25) \times (-25) = (-15625)$ Ans.