



Cubes and Cubes Roots Ex 4.5 Q5

Answer :

We have:

$$1100 = 11 \times 100$$

$$\therefore \sqrt[3]{1100} = \sqrt[3]{11 \times 100} = \sqrt[3]{11} \times \sqrt[3]{100}$$

By the cube root table, we have:

$$\sqrt[3]{11} = 2.224 \quad \text{and} \quad \sqrt[3]{100} = 4.642$$

$$\therefore \sqrt[3]{1100} = \sqrt[3]{11} \times \sqrt[3]{100} = 2.224 \times 4.642 = 10.323 \quad (\text{Up to three decimal places})$$

Thus, the answer is 10.323.

Cubes and Cubes Roots Ex 4.5 Q6

Answer :

We have:

$$780 = 78 \times 10$$

$$\therefore \text{Cube root of } 780 \text{ would be in the column of } \sqrt[3]{10x} \text{ against } 78.$$

By the cube root table, we have:

$$\sqrt[3]{780} = 9.205$$

Thus, the answer is 9.205.

Cubes and Cubes Roots Ex 4.5 Q7

Answer :

We have:

$$7800 = 78 \times 100$$

$$\therefore \sqrt[3]{7800} = \sqrt[3]{78 \times 100} = \sqrt[3]{78} \times \sqrt[3]{100}$$

By the cube root table, we have:

$$\sqrt[3]{78} = 4.273 \quad \text{and} \quad \sqrt[3]{100} = 4.642$$

$$\sqrt[3]{7800} = \sqrt[3]{78} \times \sqrt[3]{100} = 4.273 \times 4.642 = 19.835 \quad (\text{upto three decimal places})$$

Thus, the answer is 19.835

Cubes and Cubes Roots Ex 4.5 Q8

Answer :

By prime factorisation, we have:

$$1346 = 2 \times 673 \Rightarrow \sqrt[3]{1346} = \sqrt[3]{2} \times \sqrt[3]{673}$$

Also

$$670 < 673 < 680 \Rightarrow \sqrt[3]{670} < \sqrt[3]{673} < \sqrt[3]{680}$$

From the cube root table, we have:

$$\sqrt[3]{670} = 8.750 \text{ and } \sqrt[3]{680} = 8.794$$

For the difference (680–670), i.e., 10, the difference in the values

$$= 8.794 - 8.750 = 0.044$$

\therefore For the difference of (673–670), i.e., 3, the difference in the values

$$= \frac{0.044}{10} \times 3 = 0.0132 = 0.013 \text{ (upto three decimal places)}$$

$$\therefore \sqrt[3]{673} = 8.750 + 0.013 = 8.763$$

Now

$$\sqrt[3]{1346} = \sqrt[3]{2} \times \sqrt[3]{673} = 1.260 \times 8.763 = 11.041 \text{ (upto three decimal places)}$$

Thus, the answer is 11.041.

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