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:

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

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

Thus, the answer is 10.323.

Cubes and Cubes Roots Ex 4.5 Q6

Answer :

We have:

$780 = 78 \times 10$

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

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

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

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

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

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

Now

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

Thus, the answer is 11.041.

********** END **********