

Mathematics

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(Chapter – 1) (Number Systems)(Exemplar Problems)

(Class – IX)

Exercise 1.1

Write the correct answer in each of the following:

Question 18:

The product $\sqrt[3]{2} \cdot \sqrt[4]{2} \cdot \sqrt[12]{32}$ equals

- (A) $\sqrt{2}$ (B) 2 (C) $\sqrt[12]{2}$ (D) $\sqrt[12]{32}$

Answer 18:

- (B) 2

Solution:

$$\begin{aligned} & \sqrt[3]{2} \cdot \sqrt[4]{2} \cdot \sqrt[12]{32} \\ &= 2^{\frac{1}{3}} \times 2^{\frac{1}{4}} \times 32^{\frac{1}{12}} \\ &= 2^{\frac{1}{3}} \times 2^{\frac{1}{4}} \times 2^{\frac{5}{12}} \\ &= 2^{\frac{4+3+4}{12}} \\ &= 2^{\frac{12}{12}} \\ &= 2 \end{aligned}$$

