

Maharashtra Board Solutions Class 8-Maths (Practice Set 16.1): Chapter 16- Surface Area and Volume



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Maharashtra Board Solutions Class 8-Maths (Practice Set 16.1): Chapter 16- Surface Area and Volume

Class 8: Maths Chapter 16 solutions. Complete Class 8 Maths Chapter 16 Notes.

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Maharashtra Board 8th Maths Chapter 16, Class 8 Maths Chapter 16 solutions

Question 1.

Find the volume of a box if its length, breadth and height are 20 cm, 10.5 cm and 8 cm respectively.

Given: For cuboid shaped box,

length (l) = 20 cm, breadth (b) = 10.5 cm and height (h) = 8cm

To find: Volume of a box

Solution:

Volume of a box = $l \times b \times h$

= $20 \times 10.5 \times 8$

= 1680 cc

∴ The volume of the box is 1680 cc.

Question 2.

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A cuboid shaped soap bar has volume 150 cc. Find its thickness if its length is 10 cm and breadth is 5 cm.

Given: For cuboid shaped soap bar,

length (l) = 10 cm, breadth (b) = 5 cm and volume = 150 cc

To find: Thickness of the soap bar (h)

Solution:

Volume of soap bar = $l \times b \times h$

$$\therefore 150 = 10 \times 5 \times h$$

$$\therefore 150 = 50h$$

$$\therefore 150/50 = h$$

$$\therefore 3 = h$$

i.e., $h = 3$ cm

$\therefore$ The thickness of the soap bar is 3 cm.

Question 3.

How many bricks of length 25 cm, breadth 15 cm and height 10 cm are required to build a wall of length 6 m, height 2.5 m and breadth 0.5 m?

Given: For the cuboidal shape brick:

length (l_1) = 25 cm,

breadth (b_1) = 15 cm,

height (h_1) = 10 cm

For the cuboidal shape wall:

length (l_2) = 6 m,

height (h_2) = 2.5 m,

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breadth (b_2) = 0.5 m

To find: Number of bricks required

Solution:

When all the bricks are arranged to build a wall, the volume of all the bricks is equal to volume of wall.

∴ Number of bricks = $\frac{\text{volume of the wall}}{\text{volume of a brick}}$

i. Volume of a brick = $l_1 \times b_1 \times h_1$

$$= 25 \times 15 \times 10 \text{ cc}$$

ii. $l_2 = 6\text{m} = 6 \times 100 \dots$ [∵ 1m = 100cm]

$$= 600 \text{ cm}$$

$$h_2 = 2.5 \text{ m} = 2.5 \times 100 = 250 \text{ cm}$$

$$b_2 = 0.5 \text{ m} = 0.5 \times 100 = 50 \text{ cm}$$

$$\text{Volume of the wall} = l_2 \times b_2 \times h_2$$

$$= 600 \times 50 \times 250 \text{ cc}$$

iii. Number of bricks = $\frac{\text{volume of the wall}}{\text{volume of a brick}}$

$$= \frac{600 \times 50 \times 250}{25 \times 15 \times 10}$$

$$= 40 \times 2 \times 25$$

$$= 2000 \text{ bricks}$$

∴ 2000 bricks are required to build the wall.

Question 4.

For rain water harvesting a tank of length 10 m, breadth 6 m and depth 3 m is built. What is the capacity of the tank? How many litre of water can it hold?

Given: For a cuboidal tank,

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Length (l) = 10 m, breadth (b) = 6 m, depth (h) = 3 m

To find: Capacity of the tank and litre of water tank can hold.

Solution:

i. $l = 10\text{ m} = 10 \times 100 \dots [\because 1\text{ m} = 100\text{ cm}]$

$= 1000\text{ cm},$

$b = 6\text{ m} = 6 \times 100 = 600\text{ cm},$

$h = 3\text{ m} = 3 \times 100 = 300\text{ cm}$

Volume of the tank $= l \times b \times h$

$= 1000 \times 600 \times 300$

$= 18,00,00,000\text{ cc}$

ii. Capacity of the tank = Volume of the tank

$= 18,00,00,000\text{ cc}$

$= 18,00,00,000 \div 1000$

$\dots [\because 1\text{ litre} = 1000\text{ cc}]$

$= 1,80,000\text{ litre}$

$\therefore$ The capacity of the tank is 18,00,00,000 cc and it can hold 1,80,000 litre of water.



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The Maharashtra State Board of Secondary and Higher Secondary Education or MSBSHSE (Marathi: महाराष्ट्र राज्य माध्यमिक आणि उच्च माध्यमिक शिक्षण मंडळ), is an **autonomous and statutory body established in 1965**. The board was amended in the year 1977 under the provisions of the Maharashtra Act No. 41 of 1965.

The Maharashtra State Board of Secondary & Higher Secondary Education (MSBSHSE), Pune is an independent body of the Maharashtra Government. There are more than 1.4 million students that appear in the examination every year. The Maha State Board conducts the board examination twice a year. This board conducts the examination for SSC and HSC.

The Maharashtra government established the Maharashtra State Bureau of Textbook Production and Curriculum Research, also commonly referred to as Ebalbharati, in 1967 to take up the responsibility of providing quality textbooks to students from all classes studying under the Maharashtra State Board. MSBHSE prepares and updates the curriculum to provide holistic development for students. It is designed to tackle the difficulty in understanding the concepts with simple language with simple illustrations. Every year around 10 lakh students are enrolled in schools that are affiliated with the Maharashtra State Board.

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FAQs

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As of now, the MSCERT and Balbharti are responsible for the syllabus and textbooks of Classes 1 to 8, while Classes 9 and 10 are under the Maharashtra State Board of Secondary and Higher Secondary Education (MSBSHSE).

How many state boards are there in Maharashtra?

The Maharashtra State Board of Secondary & Higher Secondary Education, conducts the HSC and SSC Examinations in the state of Maharashtra through its nine Divisional Boards located at Pune, Mumbai, Aurangabad, Nasik, Kolhapur, Amravati, Latur, Nagpur and Ratnagiri.

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