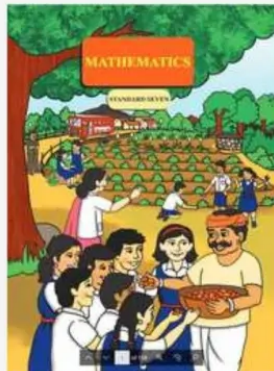


Maharashtra Board Solutions Class 7-Maths (Practice Set 47): Chapter 12- Perimeter and Area

BOOK SOLUTIONS
CLASS 7
MATHS

CHAPTER 12
Perimeter and Area



Maharashtra Board Solutions→

For any clarifications or questions you can write to info@indcareer.com

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Maharashtra Board Solutions Class 7-Maths (Practice Set 47): Chapter 12- Perimeter and Area

Class 7: Maths Chapter 12 solutions. Complete Class 7 Maths Chapter 12 Notes.

Maharashtra Board Solutions Class 7-Maths (Practice Set 47): Chapter 12- Perimeter and Area

Maharashtra Board 7th Maths Chapter 12, Class 7 Maths Chapter 12 solutions

Question 1.

Find the total surface area of cubes having the following sides:

- i. 3 cm
- ii. 5 cm
- iii. 7.2 m
- iv. 6.8 m
- v. 5.5 m

Solution:

i. Total surface area of cube = $6l^2$
 $= 6 \times (3)^2$
 $= 6 \times 9$
 $= 54 \text{ sq. cm.}$

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ii. Total surface area of cube = $6l^2$

$$= 6 \times 5^2$$

$$= 6 \times 25$$

$$= 150 \text{ sq. cm.}$$

iii. Total surface area of cube = $6l^2$

$$= 6 \times (7.2)^2$$

$$= 6 \times 51.84$$

$$= 311.04 \text{ sq. m.}$$

iv. Total surface area of cube = $6l^2$

$$= 6 \times (6.8)^2$$

$$= 6 \times 46.24$$

$$= 277.44 \text{ sq. m.}$$

v. Total surface area of cube = $6l^2$

$$= 6 \times (5.5)^2$$

$$= 6 \times 30.25$$

$$= 181.5 \text{ sq. m.}$$

Question 2.

Find the total surface area of the cuboids of length, breadth and height as given below:

i. 12 cm, 10 cm, 5 cm

ii. 5 cm, 3.5 cm, 1.4 cm

iii. 2.5 m, 2 m, 2.4 m

iv. 8 m, 5 m, 3.5 m

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Solution:

i. Total surface area of cuboid

$$\begin{aligned} &= 2 (lb + bh + lh) \\ &= 2 (12 \times 10 + 10 \times 5 + 12 \times 5) \\ &= 2 (120 + 50 + 60) \\ &= 2 \times 230 \\ &= 460 \text{ sq. cm.} \end{aligned}$$

ii. Total surface area of cuboid

$$\begin{aligned} &= 2 (lb + bh + lh) \\ &= 2 (5 \times 3.5 + 3.5 \times 1.4 + 5 \times 1.4) \\ &= 2(17.5 + 4.9 + 7) \\ &= 2 \times 29.4 \\ &= 58.8 \text{ sq. cm.} \end{aligned}$$

iii. Total surface area of cuboid = $2 (lb + bh + lh)$

$$\begin{aligned} &= 2(2.5 \times 2 + 2 \times 2.4 + 2.5 \times 2.4) \\ &= 2 (5 + 4.8 + 6) \\ &= 2 \times 15.8 \\ &= 31.6 \text{ sq. m.} \end{aligned}$$

iv. Total surface area of cuboid = $2 (lb + bh + lh)$

$$\begin{aligned} &= 2 (8 \times 5 + 5 \times 3.5 + 8 \times 3.5) \\ &= 2(40 + 17.5 + 28) \\ &= 2 \times 85.5 \end{aligned}$$

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= 171 sq. m.

Question 3.

A matchbox is 4 cm long, 2.5 cm broad and 1.5 cm in height. Its outer sides are to be covered exactly with craft paper. How much paper will be required to do so?

Solution:

Length of the matchbox (l) = 4 cm, breadth (b) = 2.5 cm, height (h) = 1.5 cm

∴ Total surface area of the matchbox = $2(lb + bh + lh)$

$$= 2(4 \times 2.5 + 2.5 \times 1.5 + 4 \times 1.5)$$

$$= 2(10 + 3.75 + 6)$$

$$= 2 \times 19.75$$

$$= 39.5 \text{ sq. cm.}$$

∴ 39.5 sq. cm paper will be required.

Question 4.

An open box of length 1.5 m, breadth 1 m, and height 1 m is to be made for use on a trolley for carrying garden waste. How much sheet metal will be required to make this box? The inside and outside surface of the box is to be painted with rust proof paint. At a rate of Rs 150 per sq. m, how much will it cost to paint the box?

Solution:

Length of the box (l) = 1.5 m, breadth (b) = 1 m, height (h) = 1 m

Since, the box is open at top,

∴ Sheet required to make the box = total surface area of the box – area of the top

$$= 2(lb + bh + lh) - lb$$

$$= 2lb + 2bh + 2lh - lb$$

$$= lb + 2bh + 2lh$$

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$$= 1.5 \times 1 + 2 \times 1 \times 1 + 2 \times 1.5 \times 1$$

$$= 1.5 + 2 + 3$$

$$= 6.5 \text{ sq. m.}$$

Since, the inside and outside surface of the box are to be painted.

$$\therefore \text{Area to be painted} = 2 \times \text{Area of the box} = 2 \times 6.5 = 13 \text{ sq. m.}$$

Total cost of painting = area to be painted $\times$ rate per sq. m.

$$= 13 \times 150$$

$$= \text{Rs } 1950$$

$\therefore$ 6.5 sq. m. sheet of metal will be required and the cost of painting the box will be Rs 1950.

Intext Questions and Activities

Question 1.

Measure the length and breadth of the courts laid out for games such as kho-kho, kabaddi, tennis, badminton, etc. Find out their perimeters and areas. (Textbook pg. no. 81)

Solution:

(Students should attempt the above activities on their own)

Question 2.

Take mobile handsets of different sizes and find the area of their screens. (Textbook pg. no. 82)

Solution:

(Students should attempt the above activities on their own)

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- Chapter 1- Geometrical Constructions (Practice Set 5)
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- Chapter 10- Bank and Simple Interest (Practice Set 40)
- Chapter 10- Bank and Simple Interest (Practice Set 41)
- Chapter 11- Circle (Practice Set 42)

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- Chapter 11- Circle (Practice Set 43)
- Chapter 12- Perimeter and Area (Practice Set 44)
- Chapter 12- Perimeter and Area (Practice Set 45)
- Chapter 12- Perimeter and Area (Practice Set 46)
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About About Maharashtra State Board (MSBSHSE)

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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Who developed the Maharashtra State board books?

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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