



# MATHS

## BOOKS - V PUBLICATION

### VOLUME

#### Question Bank

1. The length, breadth and height of a brick are 21 centimetres, 15 centimetres and 7 centimetres. What is its volume?



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2. A rectangular cube of iron is of side 8 centimetres. What is its volume? 1 cubic centimetre of iron weighs 8 grams. What is the weight of the large cube?



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3. A wooden block of length. 8 centimetres and breadth 4 centimetres, has a volume of 180

cubic centimetres. What is its height?



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4. What is the area of a rectangle of length 8 centimetres and breadth 2 centimetres?



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5. What is the volume of a rectangular block of length 8 centimetres, breadth 2 centimetres and height 1 centimetre?



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6. How many cubes are there at the very bottom?

And in the step just above it?

How many cubes in all?

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7. What is the volume of a rectangular block of length 4 centimetre, breadth 3 centimetre and height 1 centimetre?



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8. If the length, breadth and height are doubled, what happens to the volume?



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9. Calculate the volumes of the figures shown below. All lengths are in centimetres."

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10. What is the volume of a cube of side 1 metre?



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**11.** A truck is loaded with sand, 4 metre long, 2 metre wide and 1 metre high. The price of 1 cubic metre of sand is 1000 rupees. What is the price of this truck load?



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**12.** What is the volume in cubic metres of a platform 6 metre long, 1 metre wide and 50 centimetre high?



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**13.** What is the volume of a piece of wood which is 4 metres long,  $\frac{1}{2}$  metre wide and 25 centimetre high? The price of 1 cubic metre of wood is 60000 rupees. What is the price of this piece of wood?



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**14.** What is the capacity of a box whose inner length, breadth and height are 50 centimetres,



25 centimetres and 20 centimetres?



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**15.** What is the capacity of a cubical vessel of inner side 10 centimetres?



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**16.** How many litres of water does a vessel of length 2 centimetres, breadth 15 centimetres and height 10 centimetres contain?



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**17.** A rectangular tank of length 4 metres and height  $2\frac{1}{2}$  metres can contain 15000 litres of water. What is the breadth of the tank?



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**18.** Now suppose this tank contains 6000 litres of water. What is the height of the water?



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**19.** A vessel is filled with water. If a cube of side 1 centimetre is immersed into it, how many cubic centimetre of water would overflow?



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**20.** A swimming pool is 25 metres long, 10 metres wide and 2 metre deep. It is half filled. How many litres of water does it contain now?



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21. Suppose the water level is increased by 1 centimetre. How many more litres of water does it contain now?



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22. The inner sides of a cubical box are of length 4 centimetres. What is its capacity? How many cubes of side 2 centimetres can be stacked inside it?



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**23.** The inner side of a rectangular tank are 70 centimetres, 80 centimetres, 90 centimetres. How many litres of water can it contain?



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**24.** The length and breadth of a rectangular box are 90 centimetres and 40 centimetres. It contains 180 litres of water. How high is the water level?



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**25.** The inner length, breadth and height of a tank are 80 centimetres, 60 centimetres and 15 centimetres and it contains water 15 centimetre high. How much more water is needed to fill it?



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**26.** The panchayat decided to make a 'rectangular pond. The length, breadth and

depth were decided to be 20 metres, 15 metres and 2 metres. The soil dug out was removed in a truck which can carry a load of length 3 metres, breadth 2 metres and height 1 metre. How many truck loads of soil have to be moved?



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**27.** The inner length and breadth of an aquarium are 60 centimetres and 30 centimetres. It is half filled with water. When a

stone is immersed in it, the water level rose by 10 centimetres. What is the volume of the stone?



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**28.** A rectangular iron bloc has length 20 centimetres, breadth 10 centimetres and height 5 centimetres. It is melted and recast into a cube. What is the length of a side of this cube?



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**29.** A tank  $2\frac{1}{2}$  metre long and 1 metre wide is to contain 10000 litres. How high must be the tank?



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**30.** From the four corners of a square piece of paper of side 12 centimetres, small squares of side 1 centimetre are cut-off. The edges of this- are bent up and joined to form a container of height 1 centimetre. What is the capacity of

the container? If squares of side 2 centimetres are cut off, what would be the capacity?



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**31.** 36 bricks are to be placed in layers. In what all ways we can arrange them?



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**32.** Cost of a cubical shaped cake having one side 10 centimeter is 20 rupees. Cost of

another cube shaped cake having one side 20 centimeter is 120 rupees. Which is more profitable to buy? Why?



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**33.** A tank having  $2\frac{1}{2}m$  length  $1m$  breadth and  $\frac{3}{4}$  metre height has full of water. From this 225 litres of water was transferred to another tank. How much water remains in the tank?



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**34.** What is the volume of a cement block of length 30 cm breadth 15cm and height 10 cm?



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**35.** What is the volume of a rectangular block of length 3 meters, breadth 2 meters and height 1 metre?



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**36.** The volume of a rectangular block is 420 cubic centimeters, its length is 12 centimeters and breadth is 5 centimeters. What is its height?



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**37.** The length of an inner side of a cubical vessel is 20 centimeters. How much water will it contain?



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**38.** All inner sides of a cubical vessel are 15 centimeters long. How many litres of water will it contain?



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**39.** 125 cubic centimetres means how much in litres?



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**40.** What is the capacity of a cubical vessel of inner sides 1 centimetre each?



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**41.** A rectangular water tank has inner dimensions 5 metres, 4 meters and 2 meters. How many litres of water it contain?



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**42.** A rectangular compost pit with length 3 metres, breadth 2 metres and depth 1 metre is to be dug. How much earth is to be dug out to make this pit?



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**43.** A rectangular glass vessel has length 25 centimetres and breadth 16 centimetres. It contains 3600 millilitres of oil. What is the height of oil in the vessel?







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**44.** The body of a lorry has length  $8m$ , breadth  $3m$  and height  $1m$ . It is filled with cowdung. If it is measured by a biscuit tin (without lid) how many tin of cowdung does it contain? What is the total cost, if one tin costs Rs. 15? The tin has a length of  $20cm$ , breadth of  $15cm$  and height of  $30cm$



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**45.** A sawn wood has the shape of a rectangular block. Its length, breadth and height are 3 m, 30 cm and 25 cm. respectively. What will be the cost if one cubic metre costs ₹2500 ?`



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**46.** A person went to a bakery to buy a cube shaped cake with sides 10 $cm$ s. There were cube shaped cakes with sides 5 $cm$ . How many

5 cms cakes he should buy to get the same quantity of 10cm. cakes?



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**47.** A box of Halwa was bought for a Wedding party. The length of the Halwa is 25cm, breadth is 18cm and height is 16cm. If the halwa is cut into small pieces measuring  $4cm \times 3cm \times 2cm$

how many pieces we will get?



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**48.** In the figure, a, big block is made by stacking some unit cubes? How many unit cubes are used?

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How many unit cubes are needed to make a block whose volume is half of the block in the figure?



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**49.** In a school compost pit was dug as a part of the observation of the world Environmental Day. The length of the pit is 3 metres breadth 2 metres and the depth is  $\frac{21}{2}$  metres. It was decided to spread the soil dug out from the pit in the newly built garden. The length of the garden is 15 metres and breadth is 3 metres. In what height can the soil be spread in the garden.



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50. The Municipal Corporation decided to build a swimming pool in the children's park. Its length 15 metres, breadth is 5 meters and depth is 5 metres. How much water is needed fo fill the tank up to a level 3 metres from the bottom. ( 1 litre = 1000 cubic cm )



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