Cuboid Model Question-Answer

1. Find the volume of a cuboid of length 20 cm, breadth 15 cm and height 10 cm.

Solution:

Length of the cuboid = 20 cm

Breadth of the cuboid = 15 cm

Height of the cuboid = 10 cm

Therefore, volume of the cuboid = length × breadth × height

= (20 × 15 × 10) cm^3

= 3000 cm^3

2. A wall has to be built with length 8 m, thickness 3 m and height 5 m. Find the volume of the wall in cubic cm.

Solution:

Length of the wall = 8 m or 800 cm

Thickness of the wall = 3 m or 300 cm

Height of the wall = 5 m or 500 cm

Therefore, volume of the wall = length × breadth × height

= (800 × 300 × 500) cm^3

= 120000000 cm^3

3. If the volume of a room is 792 m^3 and the area of the floor is 132 m^2, find the height of the room.

Solution:

Volume of the room = 792 m^3

Area of the floor (l × b) = 132 m^2

Therefore, height of the room = (Volume of the room)/(area of the floor)

= 792 m^3/132 m^2 = 6m

4. Length, breadth and height of a room are 6 m 5 m and 3 m respectively. Find the volume of the room.

Solution:

Length of the room = 6 m

Breadth of the room = 5 m

Height of the room = 3 m

Therefore, volume of the room = length × breadth × height

= 6 × 5 × 3 m^3

= 90 m^3

5. External dimensions of a wooden cuboid are 30 cm × 25 cm × 20 cm. If the thickness of the wood is 2 cm all around, find the volume of the wood contained in the cuboid formed.

Solution:

External length of the cuboid = 30 cm

External breadth of the cuboid = 25 cm

External height of the cuboid = 25 cm

Therefore, External volume of the cuboid = (30 × 25 × 20) cm^3

= 15000 cm^3

Therefore, Internal volume of the cuboid = (26 × 21 × 16) cm^3

= 8736 cm^3

Therefore, Volume of wood = External Volume - Internal Volume

= 15000 cm^3 - 8736 cm^3

= 6264 cm^3