G. N. National Public School Gorakhnath, GKP.

Class- IX maths Chapter- 13 Surface Areas and Volumes

Assignment Part- 1

Q.1- A wall 15m long, 30m wide and 4m high is made of bricks, each measuring (22cm × 12.5cm × 7.5cm). If $\frac{1}{12}$ of the total volume of the wall consists of mortar, how many bricks are there in the wall?

Q.2- The volume of a cuboid is $1536\ m^3$. Its length is 16m and its breadth and height are in the ratio 3:2. Find the breadth and height of the cuboid.

Q.3- How many persons can be accommodated in a dining hall of dimensions (20m × 16m × 4.5m), assuming that each person requires 5 cubic metres of air?

Q.4- In a shower, 5cm of rain falls. Find the volume of water that falls on 2 hectares of ground.

Q.5- The lateral surface area of a cube is $900\ cm^2$. Find its volume.

Q.6- Three cubes of metal with edges 3cm, 4cm and 5cm respectively are melted to form a single cube. Find the lateral surface area of the new cube formed.

Q.7- If V is the volume of a cuboid of dimensions a, b, c and S is its surface area then prove that

$$\frac{1}{V} = \frac{2}{S}\left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c}\right)$$

CL-13 Surface Areas and Volumes Assignment Part-8

Q.8- Water in a canal, 30dm wide and 12 dm deep, is flowing with a velocity of 20 km per hour. How much area will it irrigate in 30 minutes, if 9cm of standing water is desired?

Q.9- A solid metallic cuboid of dimensions (9m × 8m × 2m) is melted and recast into solid cubes of edge 2m. Find the number of cubes so formed.

Q.10- Water flows in a tank 60m × 40m at the base through a pipe whose cross section is 2dm by 1.5dm at the speed of 8 km per hour. In what time will the water be 5 metres deep?