Chapter 11: Mensuration

Question 1

Find the area of a trapezium whose parallel sides are 12 cm and 20 cm and the distance between them is 15 cm.

Question 2

Find the area of a trapezium whose parallel sides are 38.7 cm and 22.3 cm, and the distance between them is 18 cm.

Question 3

The area of a trapezium is 1440 cm^2. If the lengths of its parallel sides are 54.6 cm and 35.4 cm, find the distance between them.

Question 4

The area of a trapezium is 1586 cm^2 and the distance between its parallel sides is 26 cm. If one of the parallel sides is 84 cm, find the other.

Question 5

The area of a trapezium is 384cm^2. Its parallel sides are in the ratio
2: 6 and the perpendicular distance between them is 12 cm. Find the length of each of the parallel sides.

Question 6

Mitesh wants to buy a trapezium shaped field. Its side along the river is parallel to and twice the side along the road. If the area of this field is 10500 m^2 and the perpendicular distance between the two parallel sides is 100 m, find the length of the side along the river.

Question 7

The area of a trapezium is 180 cm^2 and its height is 9 cm. If one of the parallel sides is longer than the other by 6 cm, find the two parallel sides.

Question 8

The parallel sides of a trapezium are 20 cm and 10 cm. Its nonparallel sides are both equal, each being 13 cm. Find the area of the trapezium.

Question 9

Find the circumference and Area of the circle whose radius are gives below

(a) 21 cm (b) 6.3 cm

(c) 14 mm

(d) 28 cm

(e) 49 cm (f) 77 mm

Take $\pi = 22/7$ in all the above questions

Question 10

If the circumference of a circular sheet is 176 m, find its diameter and area.

Question 11

The area of a circle is 616 cm^2. Find its diameter and circumference.

Question 12

From a circular sheet of a radius 5 cm, a circle of radius 3 cm is removed. Find the area of the remaining sheet.

Question 13

Find the perimeter semicircle whose radius is 5 cm including the diameter.

Question 14

The diameter of a wheel is 70 cm. How many times the wheel will revolve in order to cover a distance of 110 m?

Question 15

The ratio of the radii of two wheels is 3 : 2. Find the ratio of their circumference.

Question 16

A well of diameter 150 cm has a stone parapet around it. If the length of the outer edge of the parapet is 616 cm, find the width of the parapet.

Question 17

A thin wire is in the form of an equilateral triangle of side 11 cm. Find the area of a circle whose circumference is equal to the length of the wire.

Question 18

Find the area of a circle whose circumference is same as the perimeter of square of side 22 cm.

Question 19

Two circles have areas in the ratio 16 : 121. Find the ratio of their circumference and diameter

Question 20

Find the circumference of a wheel whose radius is 49 cm. Find the distance covered in 120 seconds, if it revolves 5 times per second.

Question 21

The radius of a wheel is 63 cm. Find the number of turns required to cover a distance of 1540 m.

Question 22

There are two cuboidal whose dimensions are given below. Which box requires the higher amount of material to make?

Cuboid A: L=23, B=30, H=40

Cuboid B: L=30, B=12, H=44

Question 23

Three cubes, each of edge 2 cm. long are placed together. Find the total surface area of the cuboid so formed?

Question 24

Find the side of a cube whose surface area is 2400 cm^2.

Question 25

Meghna painted the outside of the cabinet of measure 2 m × 3 m × 2.5 m. How much surface area did she cover if she painted all except the bottom of the cabinet and back side?

Question 26

Ahmed is painting the walls and ceiling of a cuboidal hall with length, breadth and height of 25 m, 12 m and 8 m respectively. From each can of paint 200 m^2 of area is painted. How many cans of paint will she need to paint the room?

Question 27

A open cylindrical tank of radius 14 m and height 3 m is made from a sheet of metal. How much sheet of metal is required?

Question 28

The lateral surface area of a hollow cylinder is 4224 cm^2. It is cut along its height and formed a rectangular sheet of width 33 cm. Find the perimeter of rectangular sheet?

Question 29

A road roller takes 750 complete revolutions to move once over to level a road. Find the area of the road if the diameter of a road roller is 84 cm and length is 1 m.

Question 30

A rectangular sheet of metal foil is 88 cm. long and 20 cm. wide. A cylinder is made out of it, by rolling the foil along width. Find the volume of the cylinder.

Question 31

The perimeter of the floor of a hall is 250 m. If the height is 4 m, find the cost of painting the four walls at the rate of Rs. 12 per square meter.

Question 32

How many times do the volume and surface area of a cube increase if its edges get tripled.

Question 33

How many times do the volume and surface area of a cylinder increase if its radius doubled and height remains same

Question 34

How many times do the volume and surface area of a cylinder increase if its radius remains same and height is doubled

Question 35

The height of a cylinder is 15 cm. and curved surface area is 660 cm^2. Find the radius of the cylinder

Question 36

Given a cuboid tank, in which situation will you find surface area and in which situation volume.

(a) To find how much it can hold.

(b) Number of paint bottle required to paint it.

(c) To find the number of smaller tanks that can be filled with water from it.

Question 37

Compare the volumes

a) Cube (side =12 cm)

Cuboid (L=11 cm, B=12 cm, H=13 cm)

b) Cylinder (r=10 cm , H=14 cm)

Cuboid (L=10 cm, B=11 cm, H=14 cm)

Question 38

Find following

a) the height of a cuboid whose base area is 180 cm^2 and volume is 900 cm^3?

b) The side of cube whose volume is 64 m^3

c) Volume of the cylinder whose base area is 20 cm^2 and height is 10 cm

Question 39

A cuboid is of dimensions 60 cm × 54 cm × 30 cm. How many small cubes with side 12 cm can be placed in the given cuboid?

Question 40

Find the height of the cylinder whose volume is 2.54 m^3 and diameter of the base is 140 cm?

Question 41

A water tank is in the form of cuboid whose length is 1.5 m , height is 2 m and Breath is 7 m. Find the quantity of water in litres that can be stored in the tank?

Question 42

If each edge of a cube is quadrupled,

(i) how many times will its surface area increase?

(ii) how many times will its volume increase?

Question 43

Water is pouring into a cuboidal reservoir at the rate of 60 liters per minute. If the volume of reservoir is 108 m^3, find the number of hours it will take to fill the reservoir.

Question 44

If Length, Breath, Height of a cuboid is tripled,

(i) how many times will its surface area increase?

(ii) how many times will its volume increase?

Question 45

If radius of cylinder is tripled and height remains same

(i) how many times will its surface area increase?

(ii) how many times will its volume increase?