Sub: Arithmetic   **Class: 7**   **Date: 22.06.20**

Duration: 40 min   **Worksheet 37**   **Full Marks: 15**

## VOLUME AND SURFACE AREA OF SOLIDS

Choose the Correct options:

1) Dean has a cardboard box whose length, breadth and height are in the ratio 1:2:3. He makes a new box such that the length, breadth and height got increased by 100%, 200% and 200% respectively. How much less is volume of old box than the new box?

   a. 12 times less
   b. 16 times less
   c. 17 times less
   d. 24 times less

2) Ramesh has a metal cube. He paints all sides of the cube with green color. He divides the cube into smaller cubes of volume 1 cu.m. each. How many of these smaller cubes will not have green color on even one of its sides if the volume of larger cube is 27 cu.m.?

   a. 9
   b. 1
   c. 0
   d. 3

3) Paper charge is Rs. 60 per kg. How much expenditure would be there to cover a cube of edge 10m with a paper, if one kg of paper covers 20 sq.m. area?

   a. Rs. 2250
   b. Rs. 3600
   c. Rs. 2700
   d. Rs. 1800

4) Ramesh has a rectangular wooden block. P, Q and R are the areas of the three adjacent and contiguous faces of the block. If we denote its volume by S, then which of the following is true for sure?

   a. $S = 2(P+Q+R)$
   b. $S = P+Q+R$
   c. $S^2 = PQR$
   d. $S^2 = (PQR)/2$

5) A steel vessel has a base of length 60 cm and breadth 30 cm. Water is poured in the vessel. A cubical steel box having edge of 30 cm is immersed completely in the vessel. How much will the water rise?

   a. 7.5 cm rise
   b. 10 cm rise
   c. 15 cm rise
   d. 30 cm rise

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6) If the areas of the three adjacent faces of a cuboidal box are 120cm2, 72cm2 and 60cm2 respectively, find the volume of the box.

    a. 7200 cm^3
    b. 720 cm^3
    c. 864 cm^3
    d. $(72)^2$ cm^3

7) A room is 6m long, 5m broad and 4m high. The maximum length of rod that can be kept in the room is

    a. √61m
    b. √16m
    c. √36m
    d. √77m

8) Ramesh's bedroom has a rectangular floor. He built the 4 walls of this room in Rs. 24000 at the rate of Rs. 20 per sq. m. What is height of his bedroom if perimeter of the floor is 150m?

    a. 5 m
    b. 8 m
    c. 15 m
    d. 16 m

9) On decreasing each side of cube by 21%, its surface area decreases by?

    a. 38.47%
    b. 37.59%
    c. 38.95%
    d. -33.33%

10) A rectangular wall has its length, breadth and height in the ratio 6:5:3. What is its breadth if entire surface area is 504 sq.m?

    a. 5√3 sq.m
    b. 2√3 sq.m
    c. 22 sq.m
    d. 10√2 sq.m

11) A 4080 cu.cm cubical room can contain how many maximum number of boxes having dimensions 4 cm, 3 cm and 2 cm?

    a. 170
    b. 185
    c. 160
    d. 155

12) What will be maximum possible length of a pole in a room with dimensions 10 cm x 12 cm x 8 cm?

    a. 10 cm

    b. 14√11cm

    c. 2√77cm

    d. 12 cm

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13. What is the surface area?

3 in.   4 in.
10 in.
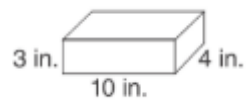
    a. 164 in^2
    b. 82 in^2
    c. 120 in^3
    d. 164 in^3

14. What is the volume?

9 ft
2 ft
3 ft
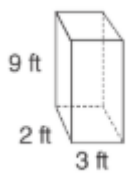
    a. 14 ft^2
    b. 54 ft^2
    c. 54 ft^3
    d. 102 ft^3

15. What is the volume to the nearest tenth?

2.5 yd
2.5 yd
5.5 yd
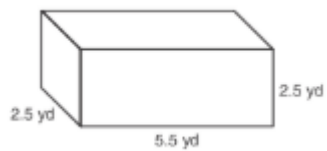
    a. 34.4 yd^2
    b. 34.38 yd^3
    c. 34.4 yd^3
    d. 34.38 yd^2