Solid Geometry Practice

20 Minutes – (Don't skip any questions)

1) A closed wooden box measures externally 9 cm long, 7 cm broad, 6 cm high. The thickness of the wood is half a cm.. The capacity of the box to hold goods (in cubic cm) is:
A. 560 B. 378 C. 321.75 D. 303.875 E. 240

2) The surface area of a cube is $30\frac{3}{8}$ sq. metres. The volume of the cube (in cubic meters) is:
A. 216/64 B. 64/8 C. 64/27 D. 64/729 E. 729/64

3) The length of the longest rod that can be placed in a room 30m long, 24m broad and 18m high is
A. $15\sqrt{2}\ m$ B. $30\sqrt{2}\ m$ C. $36\sqrt{10}\ m$ D. $60\ m$ E. $None$

4) The perimeter of one face of a cube is 40 cm. The volume of the cube (in cubic cm) is:
A. 8000 B. 1000 C. 125 D. 64 E. 27

5) The surface area (in sq. cm) of a cube of an edge 27 cm is;
A. 729 B. 2916 C. 4374 D. 19683 E. $None$

6) The sum of the length, breadth and depth of a cuboid is 19 cm and its diagonal is $5\sqrt{5}$ cm. Its surface area (in sq. cm) is:
A. 486 B. 361 C. 236 D. 125 E. $None$

7) How many cubes with an edge of 10 cm can be accommodated in a cubical box of 1 m edge?
A. 1 B. 10 C. 100 D. 1000 E. 10000

8) If the areas of the adjacent faces of a rectangular block are in the ratio $2:3:4$ and its volume is $9000\ cm^3$, then what is the length (in cm) of the shortest side?
A. 30 B. 25 C. 20 D. 15 E. 10

9) The volume of a wall 5 times as high as it is broad and 8 times as long as it is high is $12.8\ m^3$. The breadth of the wall (in cm) is
A. 40 B. 30 C. 25 D. 22.5 E. None

10) The radii of two cylinders are in the ratio $2:3$. Their heights are in the ratio $5:3$. The ratio of their curved surface areas is

A. $2:5$ B. $3:2$ C. $5:3$ D. $3:5$ E. $None$

11) The altitude of a circular cylinder is increased 6 times and the base area is decreased to $\frac{1}{9}^{th}$. The ratio of the volumes of the original and the new cylinder is:

A. $2:3$ B. $54:1$ C. $3:1$ D. $2:1$ E. $3:2$

12) Two rectangular sheets of paper each having a length of 30 cm and breadth of 18 cm are made into two circular cylinders, one by rolling the paper along its length and the other along its breadth. The ratio of the volumes of the two cylinders thus formed is:

A. $2:1$ B. $3:2$ C. $4:3$ D. $5:3$ E. $3:5$