

Mensuration Questions Pre + Mains Level

1. When the length of rectangle is decreased by 10ft. and the breadth is increased by 5 feet, the rectangle becomes a square and its area is reduced by 210 square feet. Find the area of the rectangle.
(1) 2440 square feet (2) 2340 square feet (3) 2444 square feet (4) 2540 square feet
2. . ABCD is a trapezium in which $AB \parallel DC$ and $AB = 2DC$. Then what is the ratio between the areas of ΔOAB and ΔOCD respectively ?
(1) 4 : 1 (2) 1 : 3 (3) 2 : 1 (4) 3 : 1
3. 66 cubic centimetres of silver is drawn into a wire 1 mm in diameter. The length of the wire in metres will be :
(1) 84 (2) 128 (3) 116 (4) None of these
4. Two cubes of sides 6 cm each are kept side by side to form a rectangular parallelepiped. The area (in sq. cm) of the whole surface of the rectangular parallelepiped is
(1) 432 (2) 360 (3) 396 (4) 340
5. A copper sphere of radius 3 cm is beaten and drawn into a wire of diameter 0.2 cm. The length of the wire is :
(1) 9 m (2) 12 m (3) 18 m (4) 36 m
6. Two adjacent sides of a parallelogram are of length 15 cm and 18 cm. If the distance between two smaller sides is 12 cm, then the distance between two bigger sides is
(1) 8 cm (2) 10 cm (3) 12 cm (4) 15 cm
7. The ratio of the area of two isosceles triangles having the same vertical angle (i.e. angle between equal sides) is 1 : 4. The ratio of their heights is
(1) 1 : 4 (2) 2 : 5 (3) 1 : 2 (4) 3 : 4
8. . If the radius of the base, and the height of a right circular cone are increased by 20%, what is the approximate percentage increase in volume ?
(1) 60 (2) 68.8 (3) 72.8 (4) 75
9. . If the radius of a right circular cylinder open at both the ends, is decreased by 25% and the height of the cylinder is increased by 25%.
Then the curved surface area of the cylinder thus formed
(1) remains unaltered (2) is increased by 25% (3) is increased by 6.25% (4) is decreased by 6.25%
10. Water flows at the rate of 10 metres per minute from a cylindrical pipe 5 mm in diameter. How long it take to fill up a conical vessel whose diameter at the base is 30 cm and depth 24 cm ?
(1) 28 minutes 48 seconds (2) 51 minutes 12 seconds (3) 51 minutes 24 seconds (4) 28 minutes 36 seconds
11. The radius of the base of a Conical tent is 12 m. The tent is 9 m high. Find the cost of canvas required to make the tent, if one square metre of canvas costs Rs120 (Take $\pi = 3.14$)
(1) Rs 67, 830 (2) Rs 67, 800 (3) Rs 67, 820 (4) Rs 67, 824
12. A cylindrical rod of iron whose height is eight times its radius is melted and cast into spherical balls each of half the radius of the cylinder. The number of such spherical balls is
(1) 12 (2) 16 (3) 24 (4) 48
13. A solid brass sphere of radius 2.1 dm is converted into a right circular cylindrical rod of length 7



cm. The ratio of total surface areas of the rod to the sphere is

(1) 3 : 1 (2) 1 : 3 (3) 7 : 3 (4) 3 : 7

14. The diameter of a sphere is twice the diameter of another sphere. The surface area of the first sphere is equal to the volume of

the second sphere. The magnitude of the radius of the first sphere is

(1) 12 (2) 24 (3) 16 (4) 48

15. . Marbles of diameter 1.4 cm are dropped into a cylindrical beaker containing some water and are fully submerged. The dia

meter of the beaker is 7 cm. Find how many marbles have been dropped in it if the water rises by 5.6 cm ?

(1) 50 (2) 150 (3) 250 (4) 350

16. Let ABCDEF be a prism whose base is a right angled triangle, where sides adjacent to 90° are 9 cm and 12 cm. If the cost of

painting the prism is Rs. 151.20, at the rate of 20 paise per sq cm then the height of the prism is :

(1) 17 cm (2) 18 cm (3) 15 cm (4) 16 cm

17. The total surface area of a right pyramid on a square base of side 10 cm with height 12 cm is :

(1) 260 square cm (2) 360 square cm (3) 330 square cm (4) 300 square cm

18. The diameter of a 120 cm long roller is 84 cm. It takes 500 complete revolutions of the roller to level a ground. The cost of levelling the ground at Rs. 1.50 per sq. m. is :

(1) Rs. 6000 (2) Rs. 3762 (3) Rs. 2376 (4) Rs. 5750

19. The length, breadth and height of a wooden box with a lid are 10 cm, 9 cm and 7 cm, respectively.

The total inner surface of the closed box is 262 cm². The thickness of the wood (in cm.) is

(1) 2 (2) 3 (3) $\frac{23}{3}$ (4) 1

20. . The length, breadth and height of a cuboid are in the ratio 3 : 4 : 6 and its volume is 576 cm³ . The whole surface of the

cuboid is

(1) 216 cm² (2) 324 cm² (3) 432 cm² (4) 460 cm²

21. A square of side 3 cm is cut off from each corner of a rectangular sheet of length 24 cm and breadth 18 cm and the remaining sheet is folded to form an open rectangular box. The surface area of the box is

(1) 468 cm² (2) 396 cm² (3) 612 cm² (4) 423 cm²

22. A right circular cylinder is partially filled with water. Two iron spherical balls are completely immersed in the water so that the

height of the water in the cylinder rises by 4 cm. If the radius of one ball is half of the other and the diameter of the cylinder is 18

cm., then the radii of the spherical balls are

(1) 6 cm. and 12 cm. (2) 4 cm. and 8 cm. (3) 3 cm. and 6 cm. (4) 2 cm. and 4 cm

23. A cylindrical container of 32 cm height and 18 cm radius is filled with sand. Now all this sand is used to form a conical heap of

sand. If the height of the conical heap is 24 cm, what is the radius of its base ?

(1) 12 cm (2) 24 cm (3) 36 cm (4) 48 cm

24. The volume of a right circular cone which is obtained from a wooden cube of edge 4.2 dm wasting minimum amount of wood is :

(1) 19404 cu. dm (2) 194.04 cu. dm (3) 19.404 cu. dm (4) 1940.4 cu. dm

25. The base of a right prism is a trapezium. The length of the parallel sides are 8 cm and 14 cm and the distance between the parallel

sides is 8 cm. If the volume of the prism is 1056 cm³, then the height of the prism is

(1) 44 cm (2) 16.5 cm (3) 12 cm (4) 10.56 cm

26. The floor of a corridor is 100m long and 3 m wide. Cost of covering the floor with carpet 50 cm



wide at the rate of Rs 15 per m is
(1) Rs 4500 (2) Rs 9000 (3) Rs 7500 (4) Rs 1900

27. The length (in cm) of a chord of a circle of radius 13 cm at a distance of 12 cm from its centre is
(1) 5 (2) 8 (3) 10 (4) 12

28. If the measure of one side and one diagonal of a rhombus are 10 cm and 16 cm respectively, then its area (in cm²) is :
(1) 60 (2) 64 (3) 96 (4) 100

29. A path of uniform width runs round the inside of a rectangular field 38 m long and 32 m wide. If the path occupies 600m², then the width of the path is
(1) 30 m (2) 5 m (3) 18.75 m (4) 10 m

30. The area of the square inscribed in a circle of radius 8 cm is
(a) 256 sq. cm (b) 250 sq. cm (c) 128 sq. cm (d) 125 sq. cm

(1) 3 (2) 1 (3) 1 (4) 2 (5) 4 (6) 2 (7) 3 (8) 3 (9) 4 (10) 1 (11) 4 (12) 4 (13) 3 (14) 2 (15) 2 (16) 2 (17) 2 (18) 3 (19) 4 (20) 3

(21) 2 (22) 3 (23) 3 (24) 3 (25) 3 (26) 2 (27) 3 (28) 3 (29) 5 (30) 3

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