

Questions Set

1. A rectangle has width 5 cm and a diagonal 13cm. Find its perimeter?
A. 34
B. 30
C. 36
D. 38
2. The area of a rhombus-shaped garden is $200\sqrt{3}$ square meter. The acute angle formed by the two sides of the rhombus is 60 degree What will be the cost of making a half meter high boundary around the garden if the cost of making boundary per square meter be Rs. 148?
A. Rs. 5140
B. Rs. 8088
C. Rs. 5920
D. Rs. 11508
E. None of these
3. The area of four walls of a room is 120 m^2 . The length of the room is twice its breadth. If the height of the room is 4 m, what is area of the floor?
A. 40 m^2
B. 50 m^2
C. 60 m^2
D. 80 m^2
4. Slope of the side DA of the rectangle ABCD is $5/3$. What is the slope of the side AB?
A. $3/5$
B. $-5/3$
C. $5/3$
D. $-3/5$
5. A circle is inscribed in a square. If the length of the diagonal of the square is $14\sqrt{2}$ cm, what is the area (in sq cm) of the circle?
A. 308
B. 462
C. 154
D. 616

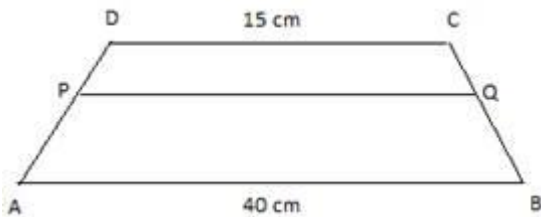
Direction: Given below are two quantities named I and II. Based on the given information, you have to determine the relation between the two quantities. You should use the given data and your knowledge of Mathematics to choose among the possible answers. ####DONE###

6. **Quantity I:** Find the volume of a cone of slant height 25 cm and curved surface area same as that of a cylinder of radius 5 cm and height 17.5 cm.
Quantity II: Find the volume of small cuboidal box of dimensions 15 cm x 12 cm x 8 cm

- A. Quantity I > Quantity II
- B. Quantity I < Quantity II
- C. Quantity I \geq Quantity II
- D. Quantity I \leq Quantity II
- E. Quantity I = Quantity II or No relation

Direction: Read the following questions followed by the information in 3 statements. You have to decide the information in which of the statements are necessary and sufficient to answer the question and mark answer accordingly. ###DONE###

7. In the given figure, a trapezium ABCD is given. It is given that, AP : PD = 3 : 2, BQ : QC = 3 : 2. Determine the length of side PQ.



- A. 30 cm
- B. 22 cm
- C. 25 cm
- D. 20 cm
- E. None of these

Directions: Study the following information carefully and answer the question ###DONE###

8. A conical pit of base radius 'R' cm and height 'H' cm is dug and from the mud that came out after digging a certain number of cuboidal and cylindrical bricks are made in such a way that 22 bricks of each types are made. Dimension of each cuboidal brick is 14 cm * 4 cm * 4 cm, radius and height of each cylindrical brick is 7 cm and 4 cm. Ratio of R to H is 21 : 40
Quantity I: Half of height of conical pit in centi – meters
Quantity II: Two less than the total number of cuboidal bricks made from the mud

- A. Quantity I > Quantity II
- B. Quantity I < Quantity II
- C. Quantity I \geq Quantity II
- D. Quantity I \leq Quantity II
- E. Quantity I = Quantity II or No relation

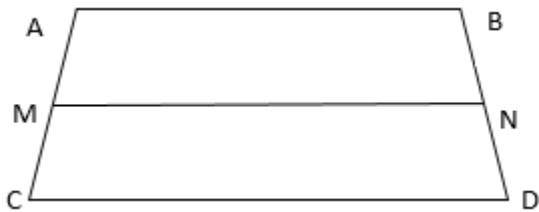
9. The difference between the area of circular field and the area of a square field is 168 sq m. Side of the square field is equal to the diameter of the circular field. What is the cost of fencing the square field at the rate of 20 per metre? (in)

- A. 2,480/-
- B. 2,420/-
- C. 2,520/-
- D. 2,240/-
- E. 2,380/-

10. The length and the breadth of a rectangle are in the ratio 5:4. The length is 20 metre more than the breadth. The perimeter of rectangle will be

- A. 300m
- B. 260m
- C. 360m
- D. 400m

11. ABCD is a trapezoid. PQRS and MLKJ are two rhombus. Diagonal of PQRS are 6 cm and 8 cm. One of the angle of MLKJ is 120 degree and the diagonal bisecting that angle measures 15 cm. Side of PQRS = AB, side of MLKJ = CD. Find MN (median of trapezoid)



- A. 15
- B. 20
- C. 10
- D. 12
- E. Can't determine

12. A square is of area 200 sq. m. A new square is formed in such a way that the length of its side is equal to the diagonal of the given square. Then the area of the new square formed is

- A. $200\sqrt{2}$ sq.m.
- B. $400\sqrt{2}$ sq.m.
- C. 400 sq.m.
- D. 800 sq.m.

13. The area of a rectangle is thrice that of a square. The length of the rectangle is 20 cm and the breadth of the rectangle is $\frac{3}{2}$ times that of the side of the square. The side of the square, in cm, is

- A. 10
- B. 20
- C. 30
- D. 60

14. Into a conical tent of radius 8.4 m and vertical height 3.5 m, how many full bags of wheat can be emptied, if space required for the wheat in each bag is 1.96 m^3 ?

- A. 264
- B. 201

- C. 132
- D. 105

15. A building is in the form of a cylinder surmounted by a hemispherical dome on the diameter of the cylinder. The height of the building is three times the radius of the base of the cylinder. The building contains $67\frac{1}{21} \text{ m}^3$ of air. What is the height of the building?

- A. 6 m
- B. 4 m
- C. 3 m
- D. 2 m

16. The radius of the base and the height of a solid right circular cylinder are in the ratio 2 : 3 and its volume is 1617 cm^3 . What is the total surface area of the cylinder?

- A. 462 cm^2
- B. 616 cm^2
- C. 770 cm^2
- D. 786 cm^2

17. A drinking glass of height 24 cm is in the shape of frustum of a cone and diameters of its bottom and top circular ends are 4 cm and 18 cm respectively. If we take capacity of the glass as $\pi x \text{ cm}^3$, then what is the value of x?

- A. 824
- B. 1236
- C. 1628
- D. 2472

18. Rain water from a roof $22 \text{ m} \times 20 \text{ m}$ drains into a cylindrical vessel having diameter of base 2 m and height 3.5 m. If the vessel is just full, what is the rainfall?

- A. 3.5 cm
- B. 3 cm
- C. 2.5 cm
- D. 2 cm

19. The volume of a conical tent is 154 cm^3 and the area of its base is 38.5 cm^2 . What is the length (in cm) of a canvas required to built the tent if the canvas is 2 cm in width?

- A. 71.35
- B. 68.75
- C. 73.25
- D. 75.75

20. The total surface area of a hemisphere is 166.32 sq cm , find its curved surface area?

- A. 221.76 sq cm
- B. 36.96 sq cm
- C. 110.88 sq cm
- D. 55.44 sq cm

21. The ratio of curved surface area of two cones is 1 : 9 and the ratio of slant height of the two cones is 3 : 1. What is the ratio of the radius of the two cones?

- A. 1 : 3
- B. 1 : 9
- C. 1 : 27
- D. 1 : 1

22. A solid metallic sphere of radius 21 cm is melted and recast into a cone with diameter of the base as 21 cm. What is the height (in cm) of the cone?

- A. 336
- B. 112
- C. 224
- D. 66

23. A regular pyramid has a square base. The height of the pyramid is 22 cm and side of its base 14 cm. Volume of pyramid is equal to the volume of a sphere. What is the radius (in cm) of the sphere?

- A. $3\sqrt{49}$
- B. 7
- C. 14
- D. $3\sqrt{98}$

24. A cylindrical well of height 80 meters and radius 7 meters is dug in a field 28 meters long and 22 meters wide. The earth taken out is spread evenly on the field. What is the increase (in meters) in the level of the field?

- A. 13.33
- B. 26.66
- C. 18.17
- D. 28.17

25. A hollow sphere of external diameters 6 cm and internal diameter 4 cm respectively is melted into a cone having base diameter 8 cm. Calculate height of the cone.

- A. 38 cm
- B. 9.5 cm
- C. 19 cm
- D. 4.75cm
- E. 41 cm