Grace Higher Secondary School Kohima

2nd Assignment 2021

Class 9 Maths FM 60

Section A

Choose the correct answer from the given alternatives: 1x5=5

Q1. The adjacent sides of a parallelogram are 3cm and 7cm. the ratio of their altitude is

i. 3:7 ii. 7:3 iii. 3:10 iv. 4:3

Q2.. The area of a regular hexagon of side ‘ x ’ is :-

i. $3\sqrt{3}x^2$ ii. $\frac{2\sqrt{3}x^2}{3}$ iii. $\frac{2\sqrt{3}x^2}{2}$ iv. $\frac{5\sqrt{3}x^2}{2}$

Q3. An isosceles right triangle has area $8cm^2$. The length of its hypotenuse is

i. $8\sqrt{2}$ cm ii. $6\sqrt{2}$ cm iii. $4\sqrt{2}$ cm iv. $4\sqrt{3}$ cm

Q4. If the area of an equilateral triangle is $9\sqrt{3}\ cm^2$; then the perimeter of the triangle is

i. 10cm ii. 18cm iii. 21cm iv. 24cm

Q5. If the length of the diagonal of a cube is $6\sqrt{3}$ cm, then edge of the cube is:-

i. 12cm ii.. 6cm iii. 5cm iv. $3\sqrt{3}$ cm

Section B **2x5=10**

Q6. A traffic signal board is an equilateral triangle with side ‘a’ . Find the area of the signal board by using Heron’s formula.

Q7. An isosceles triangle has perimeter 30cm and each of the equal sides is 12cm. Find the area of the triangle.

Q8. The length breadth and height of a room are 5m, 4m and 3m respectively. Find the area of the four walls.

Q9. Curved surface area of a right circular cylinder is $4.4m^2$. If the radius of the base of the cylinder is 0.7m; find its height.

Q10. It is required to make a closed cylindrical tank of height 1m and base diameter 140 cm from a metal sheet. How many square metres of the sheet are required for the same.

Section C **3x7=21**

Q11. Sides of a triangular plot are in the ratio 3:5:7 and its perimeter is 300m. Find its area.

Q12. Find the area of a triangle, two sides of which are 18cm and 10 cm and its perimeter is 42cm.

Q13. Find the area of a quadrilateral ABCD in which AB=3cm BC=4cm CD=4cm,,DA=5cm and AC=5cm.

Q14. A floral design on a floor is made up of 16 titles which are triangular, the sides of the triangle being 9cm, 28cm and 35cm. Find the cost of polishing the tiles at the rate of 50 per m^2 .

Q15. A triangle and a parallelogram have the sum base and the same area. If the sides of the triangle are 26cm, 28cm and 30 cm, and the parallelogram stands on the base 28cm; find the height of the parallelogram.

Q16. A plastic box 1.5m long, 1.25m wide and 65cm deep is to be made . it is opened at the top. Find

i. the area of the sheet required for making the box..

ii. the cost of sheet for it , if a sheet measuring $1m^2$ cost Rs 20.

Q17. A small indoor greenhouse is made entirely of glass panes (including base) held together with tappe. It is 30 cm long, 25cm wide and 25cm high. i.. what is the area of the glass?
ii. How much of tape is neded for all the 12 edges?

Section D

Q18. A cubical box has each edge 10cm and another cuboidal box is 12.5cm long, 10cmwide and 8cm high.

i. which box has the greater lateral surface area and how much? **2m**
ii. Which box has the smaller total surface area and by how much? **2m**

Q19. A field is in the shape of a trapezium whose parallel sides are 60cm and 77cm. the non-parallel sides are 25cm and 26cm. Find the area of the field. **5m**

Q20. The triangular side walls of a flyover have been used for advertisement. The sides of the walls are 122m, 22m and 120m. The advertisements yield an earning of Rs 5000 per m^2 per year. A company hired one of its walls for 3 months. How much rent did it pay? **5m**

Q21. The length of two sides of a right triangle containing the right angle differ by 2cm. if the area of the triangle is $24cm^2$; verify this area by using Heron's formula. **5m**

Q22. Find;-

i. The lateral surface area of a closed cylindrical petrol storage tank that is 4.2m in diameter and 4.5m high.

ii. How much steel was actually used if $\frac{1}{12}$ of the steel actually used was wasted in making the tank. **5m**