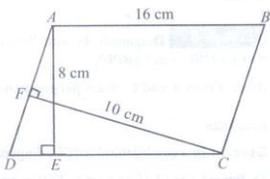


Class: 9
Subject: Mathematics
Topic: Area of Parallelogram & Triangles
No. of Questions: 20

- Q1. Parallelograms on the same (or equal) base and between the same parallel lines are equal in area.
- Q2. A diagonal of parallelogram divides it into two triangles of equal area.
- Q3. If a triangle and a parallelogram area on the same (on equal) base and between the same parallels lines, then prove that area of the triangle is equal to half the area of the parallelogram.
- Q4. Two triangles on the same base (or equal bases) and between the same parallels are equal in area.
- Q5. Find the area of a triangle, two of its sides are of length 6 cm and 12 cm and the perimeter is = 26 cm.
- Q6. The sides of a triangular plot are in the ration 3 : 5 : 7 and its perimeter is 300 m. Find its area.
- Q7. A traffic signal board, indicating 'SCHOOL AHEAD' is an equilateral triangle with side's length a. Find the area of the signal board, using Heron's Formula. If its perimeter is 180 cm.
- Q8. In figure, ABCD is a parallelogram $AE \perp DC$ and $FC \perp AD$. If $AB = 16$ cm, $AE = 8$ CM and $CF = 10$ cm. Find AD.



- Q9. Prove that the area of an equilateral triangle is equal to $\frac{\sqrt{3}}{4} a^2$, where a is the side of the triangle.
- Q10. Diagonals AC and BD of a quadrilateral ABCD intersect each other at P. Show that $\text{ar}(\triangle APB) \times \text{ar}(\triangle CPD) = \text{ar}(\triangle APD) \times \text{ar}(\triangle BPC)$. [Hint. From A and C, draw perpendiculars to BD.]

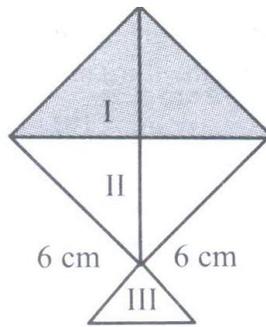
- Q11. Area of the triangle whose sides are 13 cm, 9 cm and 6 cm is
- (a) 23.6 cm^2
 - (b) 26.3 cm^2
 - (c) 36.34 cm^2
 - (d) 23.66 cm^2
- Q12. The sides of a triangle plot are in the ratio of 3: 5: 7 and its perimeter is 300 m. Its area is
- (a) $1500 \sqrt{2} \text{ cm}^2$
 - (b) $1500 \sqrt{3} \text{ cm}^3$
 - (c) $1425 \sqrt{2} \text{ cm}^2$
 - (d) 1500 cm^2
- Q13. The lengths of two adjacent sides of a parallelogram are 5 cm and 3.5 cm. One of its diagonals is 6.5 cm long. Area of the parallelogram is
- (a) $13 \sqrt{10} \text{ cm}^2$
 - (b) $23 \sqrt{5} \text{ cm}^2$
 - (c) $10 \sqrt{5} \text{ cm}^2$
 - (d) $10 \sqrt{3} \text{ cm}^2$
- Q14. A floral design on a floor is made up of 16 tiles which are triangular, the sides of a triangle being 9 cm, 28 cm, 35 cm. Cost of polishing the tiles at the rate of 50p. Per cm^2 is
- (a) Rs. 45 (approx.)
 - (b) Rs. 405 (approx.)
 - (c) RS. 450 (approx.)
 - (d) RS. 706 (approx.)
- Q15. A regular hexagon has a side 6 cm. Its perimeter and area are
- (a) 35 cm, $8 \sqrt{3} \text{ cm}^2$
 - (b) 38 cm, $10 \sqrt{2} \text{ cm}^2$
 - (c) 40 cm, $11 \sqrt{2} \text{ cm}^2$
 - (d) 36 cm, $54 \sqrt{3} \text{ cm}^2$
- Q16. 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 surface area of the cylinder thus formed.
- (a) Remains unaltered
 - (b) Is increased by 25%
 - (c) Is decreased by 25%
 - (d) Is decreased by 6.25%

Q17. A triangular park ABC has sides 120m, 80m and 50m. A gardener has to put a fence all around it and also plant grass inside. Area of garden and cost of fencing the garden with barbed wire at the rate of Rs. 20 per metre leaving a space 3m wide for a gate on one side are

- (a) $375\sqrt{15} \text{ m}^2$, Rs. 4940
- (b) $357\sqrt{10} \text{ m}^2$, Rs. 9440
- (c) $573\sqrt{8} \text{ m}^2$, Rs. 4944
- (d) $683\sqrt{10} \text{ m}^2$ Rs. 5490

Q18. An isosceles triangle has perimeter 30 cm and each of the equal sides is 12 cm. Find the area of the triangle.

Q19. A kit in the shape of a square with a diagonal 32 cm and an isosceles triangle of base 8 cm and sides 6 cm each is to be made of three different shades as shown in figure. How much paper of each shade has been used in it?



Q20. How much paper of each shade is needed to make a kite given in Fig. in which ABCD is a square with diagonal 44 cm?

