



ANGEL'S PUBLIC SCHOOL

SAMPLE PAPER

PERIODIC TEST – II SESSION 2025 – 26

CLASS – IX

SUBJECT – MATHEMATICS

TIME : 1:30 HRS

M.M:40

General Instructions:

- (a) Section – A comprises 5 MCQ questions of 1 mark each
- (b) Section – B comprises 4 questions of 2 marks each.
- (c) Section – C comprises 4 questions of 3 marks each.
- (d) Section – D comprises 2 questions of 5 marks each.
- (e) Section – E comprises 1 case based question of 5 marks .

SECTION – A

1. What is the semi perimeter of triangles with the sides 15cm, 17 cm and 8 cm?
(a) 15 cm (b) 17 cm (c) 20 cm (d) None of the above
2. The volume of a hemisphere of radius r is _____.
(a) $4\pi r^2$ (b) $\frac{2}{3}\pi r^3$ (c) $\frac{2}{3}\pi r^2$ (d) $\frac{1}{3}\pi r^2 h$
3. The radius of a sphere is $2r$, then it's volume is _____.
(a) $\frac{4}{3}\pi r^3$ (b) $4\pi r^3$ (c) $\frac{8}{3}\pi r^3$ (d) $\frac{32}{3}\pi r^3$
4. The surface area of a sphere is 154 cm^2 , then it's radius is _____.
(a) $\frac{7}{2} \text{ cm}$ (b) $\frac{3}{4} \text{ cm}$ (c) $\frac{1}{2} \text{ cm}$ (d) $\frac{3}{7} \text{ cm}$
5. The diagonals of a parallelogram are _____.
(a) equal in length (b) bisect each other (c) trisect each other (d) equal and trisect each other

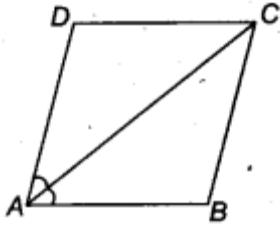
SECTION – B

6. Find the total surface area of a sphere with radius $\frac{7}{12} \text{ cm}$.
7. Find the total surface area of a cone, if its slant height is 21 m and the diameter of its base is 24 m.
8. The sides of a triangle are 8 cm, 11 cm and 13 cm. What is its area?
9. Find the area of a triangle with two sides 18 cm and 10 cm. respectively, and a perimeter equal to 42 cm.

SECTION – C

10. Write three properties of a parallelogram.

11. Show that if the diagonals of a quadrilateral are equal and bisect each other at right angles, then it is a square.
12. Diagonal AC of a parallelogram ABCD bisects $\angle A$ (see figure). Show that
- (a) It bisects $\angle C$ also, (b) ABCD is a rhombus.



13. A traffic signal board indicating 'SCHOOL AHEAD', is an equilateral triangle with side a . Find the area of the signal board, using Heron's formula. If its perimeter is 180 cm, what will be the area of the signal board?

SECTION – D

14. State and Prove the Converse of the Mid Point Theorem.
15. A hemispherical bowl made of brass has inner diameter 10.5 cm. Find the cost of tin-plating it on the inside at the rate of ₹16 per 100 cm^2 .

OR

ABCD is a rectangle in which diagonal AC bisects $\angle A$ as well as $\angle C$. Show that:

- (i) ABCD is a square.
- (ii) Diagonal BD bisects $\angle B$ as well as $\angle D$.

SECTION – E

16. World Sandwich Day is celebrated on 3rd November every year. The sandwich got its name from

John Montagu in the 18th century . On the occasion of Sandwich Day, a food manufacturing company decided to make a record by making biggest sandwich. Suppose the sides of the sandwich are 7 cm, 8 cm and 9 cm. On the basis of the above information, solve the following questions.

(a) Heron's formula is used to find the:

(i) area of a circle

(ii) area of a triangle

(iii) area of a rectangle

(iv) area of a cone

(b) The perimeter of a triangle is:

(i) 28 cm

(ii) 27 cm

(iii) 24 cm

(iv) 25 cm

(c) The area of a sandwich is:

(i) 13 cm^2

(ii) $12\sqrt{5} \text{ cm}^2$

(iii) $3\sqrt{5} \text{ cm}^2$

(iv) $7\sqrt{9} \text{ cm}^2$

(d) The length of an altitude to the smallest side of a triangle is

(i) $24\sqrt{5}/7 \text{ cm}$

(ii) $25\sqrt{5}/7 \text{ cm}$

(iii) $23/7 \text{ cm}$

(iv) $13/7 \text{ cm}$

(e) The length of an altitude to the largest side of a triangle is

(i) $4\sqrt{5} \text{ cm}$

(ii) $8\sqrt{5}/3 \text{ cm}$

(iii) $4\sqrt{5}/3 \text{ cm}$

(iv) $4\sqrt{7} \text{ cm}$