

SAMAGRA SHIKSHA- KERALAM
SUMMATIVE ASSESSMENT I - 2026-27
MATHEMATICS

Class: VIII

Time: $1\frac{1}{2}$ Hrs.

Score: 40

Instructions:

- Use the first 15 minutes to read the questions and think about answers.
- There are 16 questions, split in to 4 parts A, B, C, D
- Answer all questions; but in questions of the type A or B you need answer only one of those.
- You can answer the questions in any order, writing the correct question number.

Section A

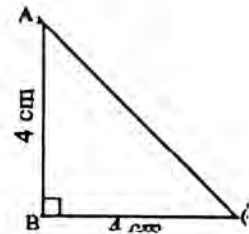
This section has **4 questions** of score **1** each. Select the correct answer.

1. $21^2 = 20^2 + (2 \times 20 \times 1) + \underline{\hspace{2cm}}$

- A) 1^2 B) 2^2 C) 3^2 D) $(0.1)^2$

2. In the figure, ABC is a right triangle. $AB = BC = 4$ centimetres.
What is $\angle C$?

- A) 30° B) 45° C) 60° D) 90°



3. Read the given statements.

Statement I: In any equilateral triangle, each angle is 60°

Statement II: If two sides of a triangle are equal, then their opposite angles are also equal.

Choose the correct answer from those given below.

- A) Statement I is true, Statement II is false.
 B) Statement I is false, Statement II is true.
 C) Both the Statements are true, Statement II is the reason of Statement I.
 D) Both the Statements are true, Statement II is not the reason of Statement I.

4. Read the given statements.

- (i) A number divided by 3 leaves remainder 0, then the number is a multiple of 3.
 (ii) Any natural number leaves remainder 0 on division by 3.
 (iii) Any perfect square leaves remainder 0 or 1 on division by 3
 (iv) Any odd number leaves remainder 0 or 1 on division by 3.

Which of the following is correct?

- A) (i) and (iii) are true B) (i) and (ii) are true
 C) (ii) and (iii) are true D) (iii) and (iv) are true

Section B

This section has 4 questions of score 2 each.

5. $(x + y)^2 = x^2 + y^2 + 2xy$

Using this, find the square of 103.

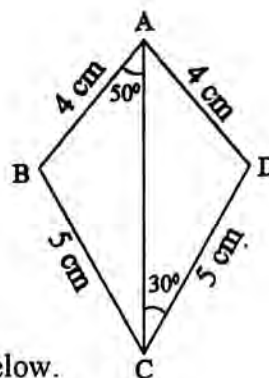
6. In quadrilateral ABCD.

AB = AD = 4 centimetres, BC = DC = 5 centimetres,

$\angle BAC = 50^\circ, \angle ACD = 30^\circ$

i) What is $\angle DAC$?

ii) What is $\angle ABC$?



7. Method of finding the square of a two digit number is given below.

	A	6
A	400	B
6	B	36

Write the numbers denoting A and B.

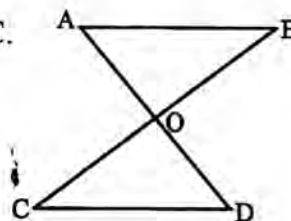
8. Write 102×98 as the difference of squares of two numbers.

Section C

This section has 4 questions of score 3 each

9. A) In the figure, O is the midpoint of AD and BC.

Prove that $AB = CD$.



OR

B) Prove that opposite angles of any parallelogram are equal.

10. Calculate the area of a square of sides 5.3 centimetres.

11. A) $60^2 = 3600$. Using this,

(i) $61^2 = 3600 + (2 \times 60) + \underline{\hspace{2cm}}$

(ii) Calculate 59^2 .

OR

B) (i) Write the first five natural numbers which leave remainder 1 on division by 10.

(ii) Prove that the squares of the numbers that leaves remainder 1 on division by 10, also leaves remainder 1 on division by 10.

12. $(x+y)^2 + (x-y)^2 = 2(x^2 + y^2)$.

i) $(x+1)^2 + \underline{\hspace{2cm}} = 2(x^2 + 1^2)$

ii) Using this, write $21^2 + 19^2$.

Section D

This section has 4 questions of score 4 each

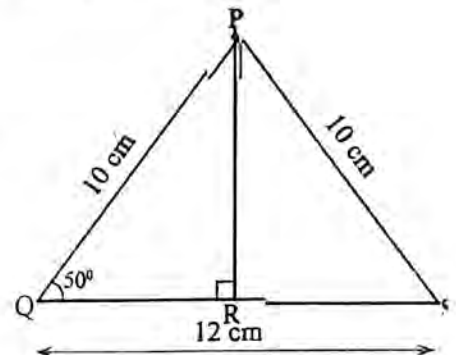
13. In the figure, $PQ = PS = 10$ centimetres.

$\angle Q = 50^\circ$, $QS = 12$ centimetres. PR is perpendicular to QS .

i) $\angle S = \underline{\hspace{2cm}}$

ii) What is the length of QR ?

iii) Find the length of PR .



14. A) In quadrilateral PQRS,

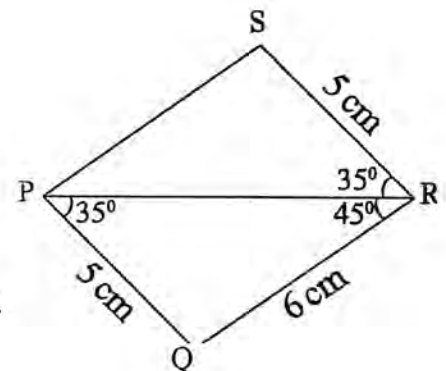
$\angle PRS = 35^\circ$, $\angle QPR = 35^\circ$, $\angle PRQ = 45^\circ$,

$PQ = RS = 5$ centimetres, $QR = 6$ centimetres.

(i) Find the length of PS .

(ii) What is $\angle PSR$?

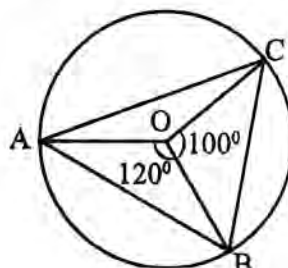
(iii) Write the most suitable name for the quadrilateral PQRS.



OR

B) The picture shows the triangle drawn by joining three points on a circle.

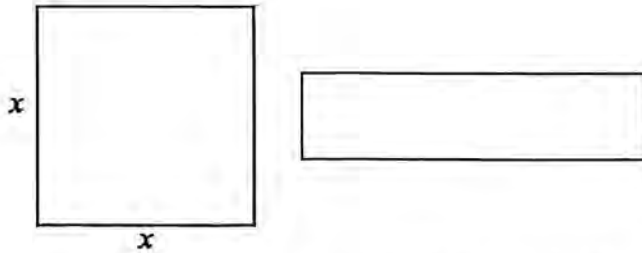
$\angle AOB = 120^\circ$, $\angle BOC = 100^\circ$.



(i) What is $\angle AOC$?

(ii) Calculate all the angles of triangle ABC.

15.



In the figure, one side of the rectangle is 3 centimetres longer than the side of the square and the other side is 3 centimetres shorter than the side of the square.

- Taking the sides of the square as x , write the sides of the rectangle.
- Which has more area, square or rectangle ? How much ?

16. A) A square of 9 numbers are given in a calendar.

Numbers in the four corners are marked.

- Calculate the products of the diagonal pairs of numbers and find their difference.

②	3	④
9	10	11
⑬	17	⑮

- Write the numbers at the four corners of a square of nine numbers taking the middle number as x .

○		○
	x	
○		○

- Explain using algebra, why the difference is same for this square.

OR

B) All the multiples of 4, starting with 8 can be written as the difference of two perfect squares.

$$8 = 4 \times 2 \times 1 = (2+1)^2 - (2-1)^2 = 3^2 - 1^2$$

$$12 = 4 \times 3 \times 1 = (3+1)^2 - (3-1)^2 = 4^2 - 2^2$$

$$16 = 4 \times 4 \times 1 = (4+1)^2 - (4-1)^2 = 5^2 - 3^2$$

- Write the next line.
- Explain this using algebra.