# Mathematics

## Practice Test Paper 8

### (Ganita Prakash Part 2 | Chapter 2: The Baudhāyana-Pythagoras Theorem)

### Class VIII | 2026–27

Time Allowed: 45 Minutes | Maximum Marks: 25

**General Instructions**

1. All 13 questions are compulsory. The paper has four sections: A, B, C and D.
2. Section A - 5 marks; Section B - 8 marks; Section C - 9 marks; Section D - 3 marks.
3. Choose one correct option in Section A. Show the necessary working in Sections B, C and D.
4. Study the images and graphs carefully before answering the related questions.

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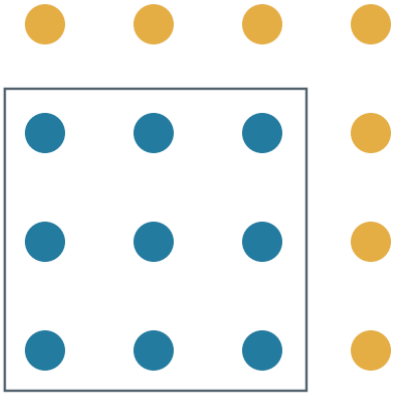
## SECTION A

(5 questions × 1 mark = 5 marks)

**1.** The dots form a 4 × 4 square. How many gold dots were added to the smaller 3 × 3 square?



(A) 4
(B) 6
(C) 7
(D) 9

**2.** One leg of a right triangle is 12 cm. Which of these could be its hypotenuse?

(A) 10 cm
(B) 11 cm
(C) 12 cm
(D) 13 cm

**3.** A quadrilateral has four equal sides and all four angles are 90°. It is a:

(A) Square
(B) Non-square rhombus
(C) Triangle
(D) Circle

**4.** Between which consecutive whole numbers does $\sqrt{288}$ lie?

(A) 14 and 15
(B) 15 and 16
(C) 16 and 17
(D) 17 and 18

**5.** Can positive integers x, y and z satisfy $x^3 + y^3 = z^3$?

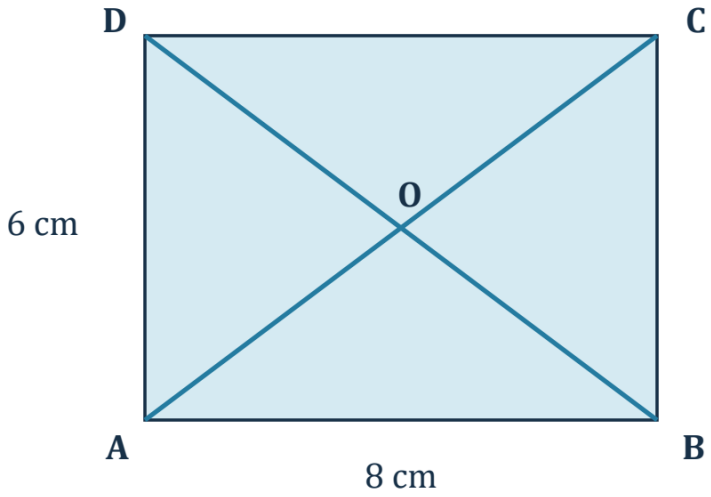
(A) Yes, for every triple (B) Yes, if x = y

(C) No (D) Only if z = 3

## SECTION B

(4 questions × 2 marks = 8 marks)

**6.** The diagonals of the rectangle bisect each other at O. Find the full diagonal AC and the length AO.




**7.** Can a square of area 3 square units have all four vertices on a unit dot grid? Use the horizontal and vertical whole-number steps along one side to explain.

**8.** Could an isosceles right triangle have a hypotenuse exactly twice as long as either leg? Let each leg be a and explain.

**9.** A primitive triple is scaled by an unknown positive integer. The new members have greatest common factor 7. What was the scale factor? Explain.

## SECTION C

(3 questions × 3 marks = 9 marks)

**10.** Use the sequence 1, 3, 5, … to show that the sum of the first 15 odd numbers is 225. Then find the 16th odd number and the sum of the first 16 odd numbers.

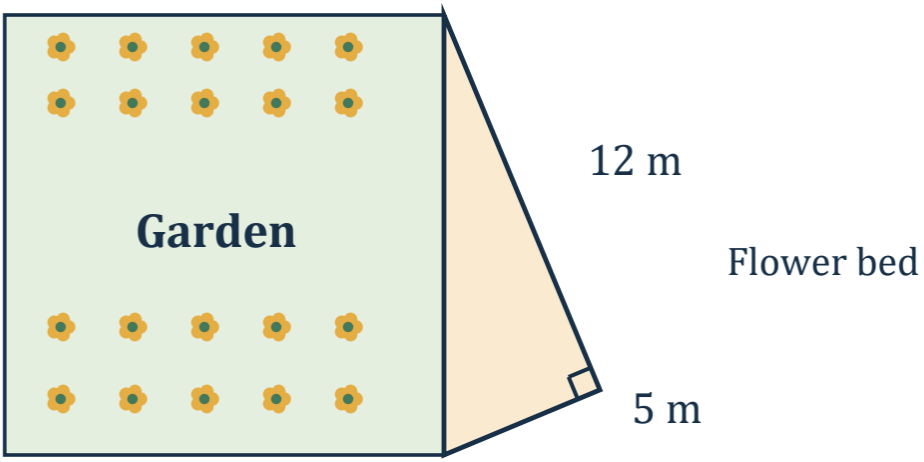
**11.** The odd-square method produces a triple whose two longer members are consecutive integers. Explain why every triple produced in this way must be primitive.

**12.** A right triangle has legs 6 units and 8 units. Another right triangle has legs 8 units and 10 units. Are their hypotenuses 2 units apart? Calculate and justify your answer.

## SECTION D

(Application Based Question - 3 marks)

**13.** The diagram shows a square garden and a right-triangular flower bed attached to one side. The bed has perpendicular sides 5 m and 12 m; its hypotenuse is the shared side of the square.




(i) Find the side of the square garden.

(ii) Find the area of the square garden.

(iii) Find the total area of the garden and flower bed.