# Mathematics

## Practice Test Paper 2

### (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.** If a square's side is halved, what fraction of its original area remains?

(A) $\frac{1}{2}$ (B) $\frac{1}{4}$

(C) $\frac{3}{4}$ (D) The whole area

**2.** The equal perpendicular sides of an isosceles right triangle are 5 cm each. Its hypotenuse is:

(A) $\sqrt{10}$ cm (B) 10 cm

(C) 25 cm (D) $\sqrt{50}$ cm

**3.** Which set is not a Baudhāyana triple?

(A) (8, 15, 17)
(B) (7, 24, 25)
(C) (7, 8, 10)
(D) (12, 35, 37)

**4.** The marked squares give bounds for $\sqrt{2}$. Which interval contains it?




(A) 1.40 to 1.41 (B) 1.41 to 1.42

(C) 1.42 to 1.43 (D) 1.43 to 1.44

**5.** In every right triangle, which side is the longest?

(A) The hypotenuse

(B) Either perpendicular side

(C) The vertical side

(D) All three are equal

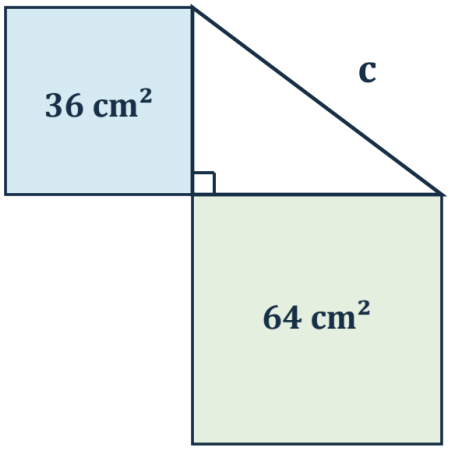
## SECTION B

(4 questions × 2 marks = 8 marks)

**6.** Find the diagonal and perimeter of a rectangle measuring 8 cm by 15 cm.

**7.** Use the squares of 1.414 and 1.415 to give closer bounds for $\sqrt{2}$. Is 1.414 its exact value?

**8.** The two shaded squares are built on perpendicular sides of a right triangle. Use their areas to find the area and side of the square on the hypotenuse.




**9.** Multiply every member of (12, 35, 37) by 3. Write the new triple and explain whether it is primitive.

## SECTION C

(3 questions × 3 marks = 9 marks)

**10.** A right triangle has hypotenuse 25 cm and one leg 7 cm. Find its other leg, perimeter and area.

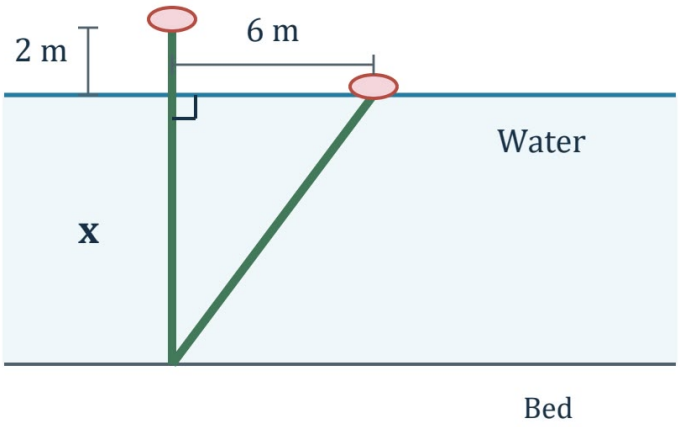
**11.** A right triangle has perpendicular sides $a$, $b$ and hypotenuse $c$. Explain why $c > a$ and $c > b$ without measuring the triangle.

**12.** A tilted square on a unit grid has a side joining dots that are 1 unit apart horizontally and 3 units apart vertically. Find its side length and area. Can its side be a whole number?

## SECTION D

(Application Based Question - 3 marks)

**13.** A straight lotus stem stands 2 m above the water. When tilted without bending, its tip touches the water 6 m from its original position. The diagram shows the two positions. Let the water depth be x metres.




(i) Write the total stem length in terms of x.

(ii) Write the right-triangle equation.

(iii) Find the water depth.