Mathematics

Practice Test Paper 5

(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.

SECTION A

(5 questions × 1 mark = 5 marks)

1. In a right triangle with perpendicular sides 1 cm and 2 cm, the square of the hypotenuse is:

(A) 3 cm^2

(B) 4 cm^2

(C) 5 cm^2

(D) 9 cm^2

2. Which pair of positive integers can be the equal legs of a right triangle with hypotenuse 10 cm?

(A) 5 and 5

(B) 7 and 7

(C) 8 and 8

(D) No such integer pair

3. The sum of the first 12 odd numbers is:

(A) 24 (B) 78

(C) 144 (D) 169

4. A scaled version of a primitive triple is obtained by multiplying every member by 5. The new triple is:

(A) Always primitive

(B) Never primitive

(C) Not a Baudhāyana triple

(D) Always made of consecutive numbers

5. The four pieces shown are rearranged without overlap or gaps into one square. What is its area?



(A) 18 cm^2 (B) 24 cm^2
(C) 36 cm^2 (D) 72 cm^2

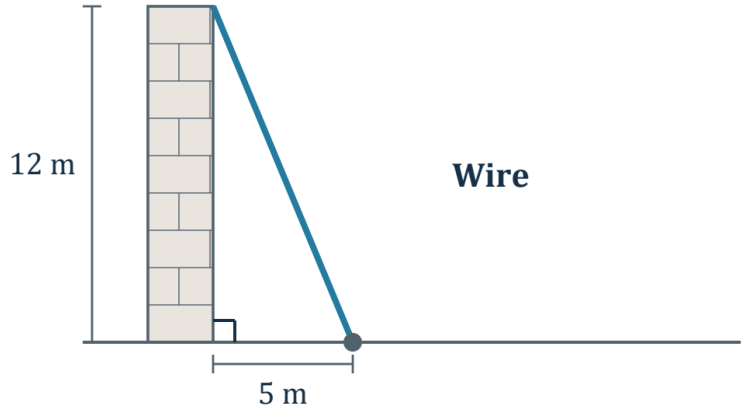
SECTION B

(4 questions × 2 marks = 8 marks)

6. Find the missing leg of a right triangle with hypotenuse 41 units and one leg 40 units. Check the three lengths.

7. Two squares have areas 20 cm^2 and 29 cm^2. Find the side of a square with their combined area. Does either original square need an integer side length?

8. A 12.5 m wire is available for the wall support shown. Can it join the two marked points? Find the exact wire length needed and any shortfall.



9. A square has side 3 cm. Someone proposes side 6 cm for a square of double its area. Find the proposed area and the correct side length.

SECTION C

(3 questions × 3 marks = 9 marks)

10. Constructing a square on a diagonal doubles its area. Explain how to construct a square with three times the area of a square of side a. Give the resulting side length in terms of a.

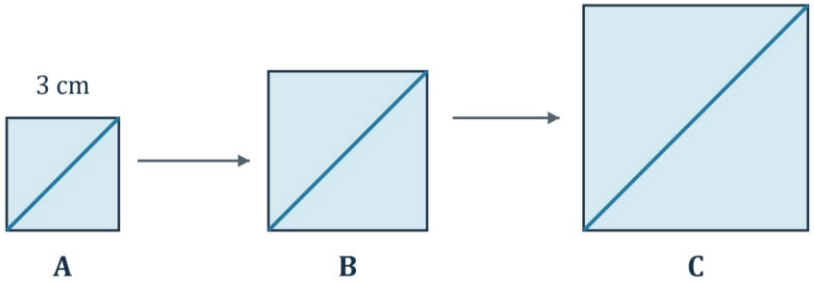
11. A triple produced by the odd-square method has hypotenuse 61. Recover its other two members, verify the triple and explain why it is primitive.

12. A rectangular mat is 1.5 m wide and 2 m long. Find its diagonal and the total length of tape needed along both diagonals. Explain why the two diagonals have equal length.

SECTION D

(Application Based Question - 3 marks)

13. In the diagram, each new square is constructed on the diagonal of the previous square. The first square has side 3 cm.



(i) Find the area of Square A.

(ii) Find the area of Square B.

(iii) Find the side length of Square C.