Mathematics

Practice Test Paper 6

(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

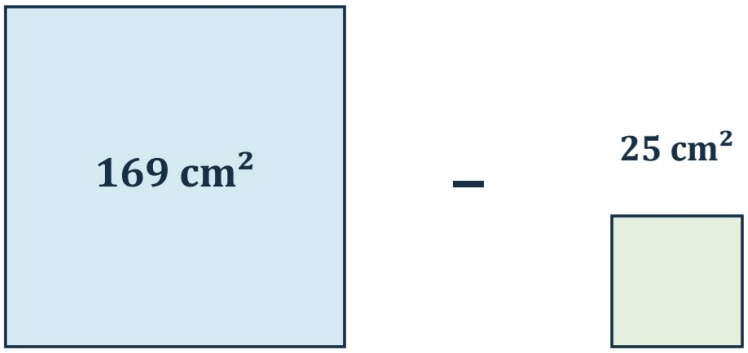
(5 questions × 1 mark = 5 marks)

1. If $a^2 + b^2 = c^2$ for a right triangle, which gives b^2?

(A) $c^2 - a^2$ (B) $c^2 + a^2$

(C) $a^2 - c^2$ (D) $c - a$

2. The required square has area equal to the large square's area minus the small square's area. What is its side?



(A) 5 cm (B) 7 cm

(C) 10 cm (D) 12 cm

3. Which number can be the hypotenuse in a triple generated from the odd square 25?

(A) 12 (B) 13

(C) 24 (D) 25

4. Which of these is a scaled version of (5, 12, 13)?

(A) (10, 17, 18) (B) (10, 24, 25)

(C) (15, 36, 39) (D) (25, 60, 64)

5. Fermat's Last Theorem concerns positive-integer solutions of which equation, for n greater than 2?

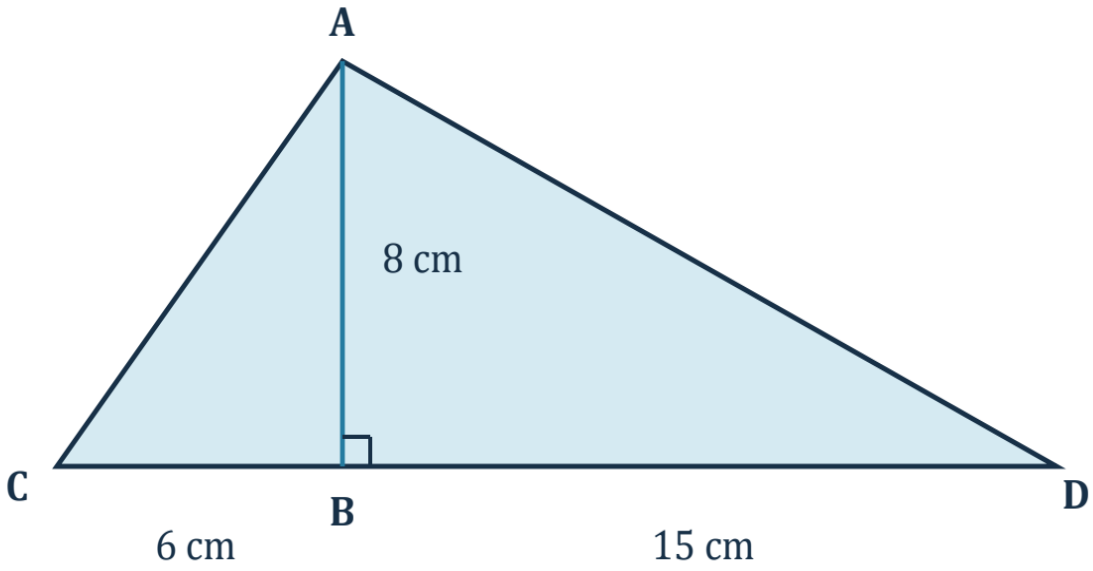
(A) $x + y = z$
(B) $x^n + y^n = z^n$
(C) $x^2 + y^2 = z^2$
(D) $x^n - y = z$

SECTION B

(4 questions × 2 marks = 8 marks)

6. Find the hypotenuse of a right triangle whose legs are 0.9 m and 1.2 m. Show your calculation and state whether its three lengths are integers in centimetres.

7. AB is perpendicular to both BC and BD. The two right triangles share AB. Find AC and AD from the lengths shown.



8. Two isosceles right triangles have hypotenuses 6 cm and 12 cm. Find their areas and the ratio of the smaller area to the larger area.

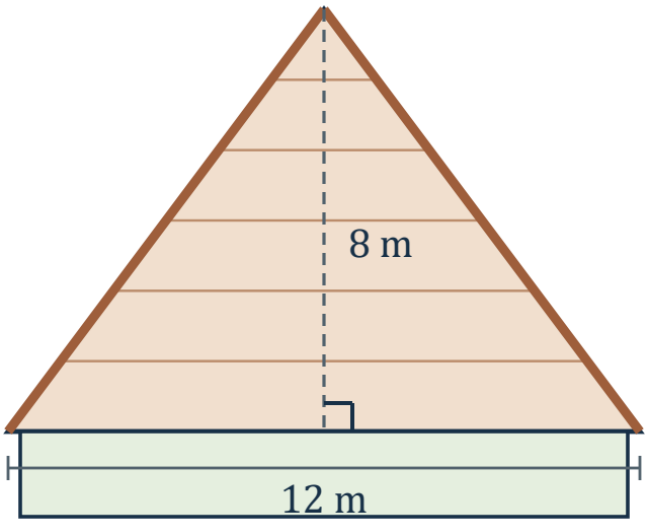
9. A square has area 72 cm^2. Find the area and side length of the square formed by joining its side midpoints.

SECTION C

(3 questions × 3 marks = 9 marks)

10. Explain why adding 1 to every member of (3, 4, 5) does not give another Baudhāyana triple. Compare this with multiplying every member by 2.

11. A symmetric roof has the dimensions shown. The vertical height meets the base at its midpoint. Find the length of each sloping side and the area of the triangular end.



12. A right triangle has legs 7 cm and 9 cm. Find its hypotenuse and show that its length lies between 11.4 cm and 11.5 cm.

SECTION D

(Application Based Question - 3 marks)

13. Two square tiles have side lengths 4 cm and 9 cm. A new square is made with area equal to their combined areas.

(i) Find the combined area.

(ii) Write the exact side length of the new square.

(iii) Between which consecutive whole numbers does this side lie?