

Chapter – 2 | The Baudhāyana-Pythagoras Theorem

QUIZ-01

1. Doubling the side of a square makes its area:

- A. 2 times
- B. 3 times
- C. 4 times
- D. 8 times

(C)

Explanation: Area depends on side $\times$ side, so doubling side gives $2 \times 2 = 4$ times area.

2. A square on the diagonal of a given square has:

- A. Half the area
- B. Double the area
- C. Same area
- D. Four times area

(B)

Explanation: The diagonal produces a square with double the original area.

3. In a right triangle, the side opposite the right angle is called:

- A. Base
- B. Height
- C. Hypotenuse
- D. Median

(C)

Explanation: The hypotenuse is always opposite the right angle.

4. In an isosceles right triangle with equal sides 1 and 1, the hypotenuse is:

- A. 1
- B. $\sqrt{2}$
- C. 2
- D. 4

(B)

Explanation: $c^2 = 1^2 + 1^2 = 2$, so $c = \sqrt{2}$.

5. The value of $\sqrt{2}$ lies between:

- A. 1 and 2
- B. 2 and 3
- C. 3 and 4
- D. 0 and 1

(A)

Explanation: $\sqrt{2}$ is approximately 1.414, so it lies between 1 and 2.

6. Baudhāyana's theorem for a right triangle is:

- A. $a + b = c$
- B. $a^2 + b^2 = c^2$
- C. $a^2 - b^2 = c^2$
- D. $2a + b = c$

(B)

Explanation: For a right triangle, the sum of squares of shorter sides equals the square of hypotenuse.

7. If sides are 3 cm and 4 cm, the hypotenuse is:

- A. 5 cm
- B. 6 cm
- C. 7 cm
- D. 8 cm

(A)

Explanation: $3^2 + 4^2 = 9 + 16 = 25$, so $c = 5$.

8. Which is a Baudhāyana triple?

- A. 2, 3, 4
- B. 3, 4, 5
- C. 4, 5, 6
- D. 5, 6, 7

(B)

Explanation: $3^2 + 4^2 = 5^2$.

9. A primitive Baudhāyana triple has:

- A. No common factor greater than 1
- B. All equal sides
- C. Only even numbers
- D. No hypotenuse

(A)

Explanation: Primitive triples do not have a common factor greater than 1.

10. Fermat's Last Theorem says $x^n + y^n = z^n$ has no positive integer solution when:

- A. $n = 1$
- B. $n = 2$
- C. $n > 2$
- D. $n = 0$

(C)

Explanation: Fermat's Last Theorem applies to powers greater than 2.