CHAPTER-2 | The Baudhāyana-pythagoras Theorem

QUIZ PART-10

1. Baudhāyana's Theorem for a right-angled triangle is:
   A. a + b = c
   B. $a^2 + b^2 = c^2$
   C. $a^2 - b^2 = c^2$
   D. $ab = c^2$ (B)

Explanation : The theorem states that the sum of the squares of the two shorter sides equals the square of the hypotenuse.

2. In the relation $a^2 + b^2 = c^2$, c represents the:
   A. Base
   B. Height
   C. Shorter side
   D. Hypotenuse (D)

Explanation: In a right triangle, c denotes the hypotenuse.

3. If a = 3 cm and b = 4 cm, then c = ?
   A. 5 cm
   B. 6 cm
   C. 7 cm
   D. 8 cm (A)

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

4. The paper-cutting activity in this chapter is used to demonstrate:
   A. Area of a circle
   B. Baudhāyana's Theorem
   C. Volume of a cube
   D. Surface area of a cuboid (B)

Explanation: The activity visually proves the theorem using squares and rearrangement.

5. If a = 5 cm and b = 12 cm, the hypotenuse is:
   A. 10 cm
   B. 12 cm
   C. 13 cm
   D. 17 cm (C)

Explanation : $5^2 + 12^2 = 25 + 144 = 169$, and $\sqrt{169} = 13$.

6. If a = 8 cm and b = 15 cm, the hypotenuse is:
   A. 17 cm
   B. 18 cm
   C. 20 cm
   D. 25 cm (A)

Explanation : $8^2 + 15^2 = 64 + 225 = 289$, and $\sqrt{289} = 17$.

7. The theorem applies to:
   A. All triangles
   B. Equilateral triangles only
   C. Right-angled triangles
   D. Circles (C)

Explanation : Baudhāyana's Theorem is valid only for right-angled triangles.

8. If the hypotenuse is 10 cm and one side is 6 cm, the other side is:
   A. 4 cm
   B. 6 cm
   C. 8 cm
   D. 12 cm (C)

Explanation : $10^2 - 6^2 = 100 - 36 = 64$, and $\sqrt{64} = 8$ cm.

9. In a right triangle, the hypotenuse is always the:
   A. Shortest side
   B. Longest side
   C. Vertical side
   D. Equal side (B)

Explanation : The hypotenuse lies opposite the right angle and is always the longest side.

10. If a = 9 cm and c = 15 cm, the missing side b is:
    A. 25 cm
    B. 20 cm
    C. 12 cm
    D. 10 cm (C)

Explanation : $15^2 - 9^2 = 225 - 81 = 144$, and $\sqrt{144} = 12$ cm