

CHAPTER-2 | The Baudhāyana-Pythagoras Theorem

QUIZ PART-13

1. A Baudhāyana-Pythagoras triple consists of:

- A. Three numbers satisfying $a^2 + b^2 = c^2$
- B. Three equal numbers
- C. Three prime numbers
- D. Three consecutive numbers (A)

Explanation: A Baudhāyana-Pythagoras triple satisfies the relation $a^2 + b^2 = c^2$.

2. Which of the following is a Baudhāyana-Pythagoras triple?

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

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

3. In the triple (3, 4, 5), the hypotenuse is:

- A. 3
- B. 4
- C. 5
- D. 7 (C)

Explanation: The largest number in a Pythagorean triple is the hypotenuse.

4. Is (30, 40, 50) a Baudhāyana triple?

- A. Yes
- B. No
- C. Sometimes
- D. Cannot be determined (A)

Explanation: It is 10 times the triple (3, 4, 5).

5. If (3, 4, 5) is a triple, then (6, 8, 10) is:

- A. Not a triple
- B. A multiple of the same triple
- C. A prime triple
- D. An impossible triple (B)

Explanation: Each number is multiplied by 2.

6. According to the chapter, (3k, 4k, 5k) satisfies:

- A. $3k + 4k = 5k$
- B. $(3k)^2 + (4k)^2 = (5k)^2$
- C. $3k \times 4k = 5k$
- D. $(3k)^2 - (4k)^2 = (5k)^2$ (B)

Explanation: The chapter proves that (3k, 4k, 5k) is always a Baudhāyana triple.

7. Which of the following is obtained by multiplying (3, 4, 5) by 3?

- A. (6, 8, 10)
- B. (9, 12, 15)
- C. (12, 16, 20)
- D. (15, 20, 25) (B)

Explanation: $3 \times 3 = 9$, $4 \times 3 = 12$, and $5 \times 3 = 15$.

8. There are _____ Baudhāyana triples.

- A. No
- B. Only 10
- C. Only 100
- D. Infinitely many (D)

Explanation: Multiplying a triple by any positive integer gives another triple.

9. Which of the following satisfies $a^2 + b^2 = c^2$?

- A. 5, 12, 13
- B. 5, 10, 15
- C. 7, 8, 9
- D. 9, 12, 14 (A)

Explanation: $5^2 + 12^2 = 25 + 144 = 169 = 13^2$.

10. Which triple is a multiple of (3, 4, 5)?

- A. 7, 8, 9
- B. 5, 10, 15
- C. 6, 8, 10
- D. 9, 12, 14 (C)

Explanation: $(6, 8, 10) = 2 \times (3, 4, 5)$.