

CHAPTER-2 | The Baudhāyana-pythagoras Theorem

QUIZ PART-14

1. A primitive Baudhāyana triple is a triple whose numbers have:

- A. A common factor greater than 1
- B. No common factor other than 1
- C. Equal values
- D. Consecutive values (B)

Explanation : Primitive triples have no common factor except 1.

2. Which of the following is a primitive Baudhāyana triple?

- A. (6, 8, 10)
- B. (9, 12, 15)
- C. (5, 12, 13)
- D. (12, 16, 20) (C)

Explanation: The numbers 5, 12, and 13 have no common factor other than 1.

3. If (a, b, c) is a Baudhāyana triple, then (ka, kb, kc) is also a triple for:

- A. Any positive integer k
- B. $k = 1$ only
- C. Even k only
- D. Odd k only (A)

Explanation: Multiplying all three numbers by the same positive integer preserves the triple.

4. The triple (9, 12, 15) is:

- A. Primitive
- B. Non-primitive
- C. Impossible
- D. Equilateral (B)

Explanation: All three numbers are divisible by 3, so it is non-primitive.

5. If (9, 12, 15) is divided by their common factor 3, the resulting triple is:

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

Explanation : Dividing by 3 gives the primitive triple (3, 4, 5).

6. The nth odd number is:

- A. $n + 1$
- B. $2n$
- C. $2n - 1$
- D. n^2 (C)

Explanation : The sequence of odd numbers follows the pattern 1, 3, 5, 7, ..., so the nth odd number is $2n - 1$.

7. The sum of the first (n - 1) odd numbers is:

- A. n^2
- B. $(n - 1)^2$
- C. $2n - 1$
- D. $n - 1$ (B)

Explanation : The sum of the first (n - 1) odd numbers equals $(n - 1)^2$.

8. Which equation is highlighted in the chapter for generating triples?

- A. $n^2 + n = 2n$
- B. $(n - 1)^2 + (2n - 1) = n^2$
- C. $n^2 - 1 = n$
- D. $2n + 1 = n^2$ (B)

Explanation : This identity is used to explore primitive Baudhāyana triples.

9. Which of the following is NOT a primitive triple?

- A. (3, 4, 5)
- B. (5, 12, 13)
- C. (8, 15, 17)
- D. (6, 8, 10) (D)

Explanation : 6, 8, and 10 have a common factor of 2, so the triple is non-primitive.

10. 25 is the 13th odd number. Which primitive Baudhāyana triple is formed?

- A. $5^2 + 12^2 = 13^2$
- B. $7^2 + 24^2 = 25^2$
- C. $8^2 + 15^2 = 17^2$
- D. $9^2 + 40^2 = 41^2$ (B)

Explanation : Since 25 is the square and also the hypotenuse, the correct primitive triple is (7, 24, 25).