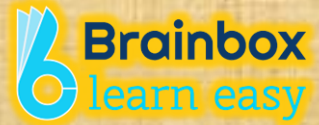


Chapter 6



Squares & Square Roots

Pythagorean triplets:

Three positive integer a , b and c form a Pythagorean triplet (a, b, c) if $a^2 + b^2 = c^2$ where 'a' and 'b' represent the two adjacent sides of a right-angled triangle and 'c' represents its hypotenuse.

Example:

3, 4 and 5 form a Pythagorean triplet.

Since, $3^2 + 4^2 = 5^2$

Note:

1) For any natural number $n > 1$, the numbers $2n$, $n^2 - 1$, $n^2 + 1$ form a Pythagorean triple.

Example:

When $n = 4$, then $2n = 8$, $n^2 - 1 = 15$ and $n^2 + 1 = 17$. The numbers 8, 15 and 17 form a Pythagorean triplet, since $8^2 + 15^2 = 17^2$.

2) If there are no common factors than '1' among a , b , c then the triplet (a, b, c) is called "Primitive triplet".