

Activity Worksheet

Challenging brain

Sub : Mathematics

Grade: IX

Date:

Name:

ID No.....

Activity : To Find Pythagorean Triples

Pythagorean Triples

- Any three numbers a, b and c satisfying the relation $a^2 + b^2 = c^2$ are called Pythagorean triple
- There are infinite number of such triples.

- The best known are

$$\begin{aligned}(3, 4, 5) & : 3^2 + 4^2 = 5^2 \\(5, 12, 13) & : 5^2 + 12^2 = 13^2 \\(8, 15, 17) & : 8^2 + 15^2 = 17^2 \\(7, 24, 25) & : 7^2 + 24^2 = 25^2\end{aligned}$$

They can easily be found using the formulae.

$$a = m^2 - n^2, \quad b = 2mn, \quad c = m^2 + n^2$$

Where m and n are whole numbers. For example, when $m = 3$ and $n = 2$

$$a = 3^2 - 2^2 = 5, \quad b = 2 \times 3 \times 2 = 12, \quad c = 3^2 + 2^2 = 13$$

7. Divide the class into groups of eight to ten students each and ask them to find out at least three Pythagorean triples.

Sol.
