**Aptitude Assignment 3**

1. Write two quadratic equations such that the sum of roots equals twice the product of roots?

**Answer:**  x^2 - 6x + 5 = 0

The roots of this equation are x=1 and x=5. The sum of roots is 6 and the product of roots is 5. Twice the product of roots is 10, which is equal to the sum of roots.

2x^2 - 5x - 3 = 0

The roots of this equation are x=3 and x=-1/2. The sum of roots is 5/2 and the product of roots is -3. Twice the product of roots is -6, which is equal to the sum of roots.

2. 2x+3y=12 has (2,3) as its solution or not?

**Answer:**  2(2) + 3(3) = 4 + 9 = 13 ≠ 12

Therefore, (2,3) is not a solution for the given equation.

3. Find possible coordinates of (x,y) such that point (1,1), (2,2) & (x,y) are collinear?

**Answer:**  the possible coordinates of (x,y) that make the three points collinear are any coordinates of the form (a,a), where a is any real number.

4. Find out all possible values of a & b for which the ratio of a^3+b^3 to a^3-b^3 is 1:1 a,b are real numbers.

**Answer:**  the only possible values of a and b are a=0 and b=0 .

5. The triangle area formed by the lines y=x, y-axis and y=3 line will be?

**Answer:**  (9/4)√2 square units.