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:

$2(2) + 3(3) = 4 + 9 = 13 \neq 12$

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.