

## Answer on Question #57488 – Math – Combinatorics | Number Theory

### Question

There are 15 boys and 10 girls in your class. A four member committee is to be formed from the students of your class. In how many ways this can be done if the committee consists at least three girls?

### Solution

In the committee there should be at least three girls and it means that in the committee can be three or four girls. So the number of ways to form the committee will be the sum of the number of ways to do it with 3 of 10 girls and 1 of 15 boys and the number of ways with 4 of 10 girls and no boys.

The number of ways to choose 3 of 10 girls and 1 of 15 boys will be

$$C_{10}^3 * C_{15}^1 = 1800$$

The number to choose 4 of 10 girls will be

$$C_{10}^4 = 210$$

And the total number of ways to form the committee is

$$C_{10}^3 * C_{15}^1 + C_{10}^4 = 1800 + 210 = 2010.$$

**Answer:** 2010.