Combinations

Combination is an arrangement of objects in which the order does not matter – without repetition.

To find a combination, we have to divide out the repeats

$$\mathbf{nCr} = \frac{nPr}{r!} = \frac{n!}{(n-r)!r!}$$

From among 12 students trying out for the basketball team, how many ways can 7 students be selected?

Ted has 6 employees, three of them must be on duty during the night shift, how many ways can he choose who will work?