We are choosing *r* items out of *n* possibilities *without replacement* and where the *order of selection is important*. This is given by

We would prefer to attach a special notation and a special definition to this situation where we are choosing *r* items out of *n* possibilities *without replacement* and where the *order of selection is important*. That notation is referred to as *Permutation.*

We say that there are nPr **permutations** of size *r* that may be selected from among *n* choices *without repacement* when *order matters*. And we can express this result more simply using factorial notation in the following formula:

In the present case:

Therefore,

That’s it.