FACE



Concept 5: Computation of Combination

Number of ways of arranging 'n' items in 'r' slots without repetition (${}^{n}P_{r}$) comprises of two steps, selecting 'r' out of 'n items (${}^{n}C_{r}$) and then arranging the 'r' items in the 'r' slots(r!).

$${}^{n}P_{r} = {}^{n}C_{r} \times r!$$

 $n!/(n-r)! = {}^{n}C_{r} \times r!$
 ${}^{n}C_{r} = \frac{n!}{(n-r)! \times r!}$

Remember $^{n}C_{r} = ^{n}C_{n-r}$ $^{n}C_{0} = 1$ $^{n}C_{n} = 1$ $^{n}C_{1} = n$



Drill 5



a. From a squad of 8 members, in how many ways can you pick a team of 5 members?

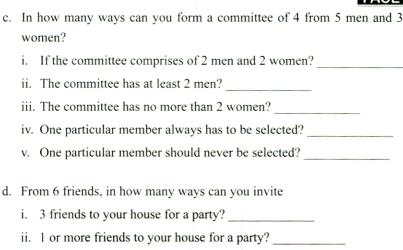
Is selecting 3 members, who will not be a part of the team, the same as selecting 5 members who will be a part of the team? Yes/No

b. In how many ways can you form a cricket team of 11(comprising of 6 batsmen and 5 bowlers) from a squad of 16 (8 batsmen and 8 bowlers)?

Number of ways of selecting batsmen = ____ C __ = ____ Number of ways of selecting bowlers = ___ C __ = ____

Number of ways of selecting the team = ____ x ___ =





e. In how many ways can you give one or more toffees to your friend from the 5 similar orange and 4 similar grape flavoured toffees?

iii. At least 2 friends to your house for a party?