

Permutations and Combinations

The Fundamental Counting Principle

Ex Multiple Choice Quiz  
4 possible answers on 5 questions

Permutations of  $n$  Things Taken  $r$  at a Time

Combinations of  $n$  Things  $r$  at a Time

$${}_n C_r =$$

$${}_7 P_4 =$$

$${}_9 P_9 =$$

$${}_6 P_0 =$$

$${}_7 C_4 =$$

$${}_9 C_9 =$$

Nine bands have volunteered to perform at a benefit concert, but is only enough time for of the band to play. How many lineups are possible?

To win at LOTTO in the state of Florida, one must correctly select 6 numbers from a collection of 53 numbers (1 through 53). The order in which the selection is made does not matter. How many different selections are possible?