

# Combinations and Permutations - Calculations

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Select RUN mode from the main menu by using the arrow keys to highlight the RUN icon or pressing 1.



## Combinations and Permutations - ${}^n\text{C}_r$ and ${}^n\text{P}_r$ respectively



OPTN



F6



F3

**Example:** How many arrangements are there of 8 people standing in a line?

**Answer:**  $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 8!$   
or  ${}^8\text{P}_8 = 40320$



**Example:** How many ways can we choose a committee of 7 people from a group of 11 women and 8 men if there have to be 3 men and 4 women on the committee?

**Answer:**  ${}^{11}\text{C}_4$  = number of combinations of women.  
 ${}^8\text{C}_3$  = number of combinations of men.  
Total number of ways of getting this committee  
is  ${}^{11}\text{C}_4 \cdot {}^8\text{C}_3 = 18480$

