

## Ordered Vs. Unordered Arrangements

- 1) Evaluate  ${}_4P_3$  *without* using your calculator.
- 2) List all of the 3- letter permutations of *ABCD*.
- 3) Sort your list from 2) into groups of permutations that would be the same if you ignore order.
- 4) Find an expression for the number of unordered arrangements of  $n$  objects taken  $r$  at a time.