

**Subsets of size  $k$  and of size  $n - k$**

$$\binom{n}{k} = \binom{n}{n-k} \quad \text{and} \quad {}_nC_k = {}_nC_{n-k}$$

The number of subsets of size  $k$  of a set with  $n$  objects is the same as the number of subsets of size  $n - k$ . The number of combinations of  $n$  objects taken  $k$  at a time is the same as the number of combinations of  $n$  objects taken  $n - k$  at a time.