

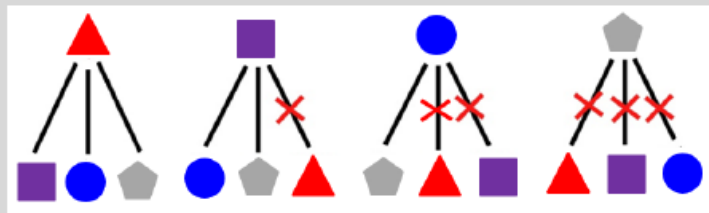


Combination

The number of possible ways to select or arrange objects when there is no repetition and **order does not matter**

Example: If Sam chooses 2 selections from triangle, square, circle and pentagon. How many different combinations are possible?

Order (position) does not matter so
 is the same as 



There are 6 possible combinations.

Combination

(Formula)

To calculate the number of possible combinations using a formula

$${}^nC_r = \frac{n!}{r!(n-r)!}$$

n and r are positive integers, $n \geq r$, and n is the total number of elements in the set and r is the number to be ordered.

Example: In a class of 24 students, how many ways can a group of 4 students be arranged (**order does not matter**)?

$${}_{24}C_4 = \frac{24!}{4!(24-4)!} = 10,626$$