

Permutations

Eg: In a school trip 50 student Dairy Milk, 5 Star, Milky Bar, Gem, . . .

↳ chocolate factory { 6 chocolates }

Task

$$\underline{6} \times \underline{5} \times \underline{4} = \underline{\underline{120}}$$

✓ Dairy Milk, Milky bar, 5 star

✓ Milky bar, Dairy Milk, 5 star

Permutation

$$n = 6$$

$$r = 3$$

$$\begin{aligned} {}^n P_r &= \frac{n!}{(n-r)!} \\ &= \frac{6!}{(6-3)!} \end{aligned}$$

$$= \frac{6 \times 5 \times 4 \times \cancel{3!}}{\cancel{3!}} = \underline{\underline{120}}$$

n = Total # of object

r = # of objects you are picking