

The way to write down mathematically what Galactus has said is the following:

the number of combinations for n objects taken in groups of k is

$$C(n, k) = \frac{n!}{k!(n-k)!} \quad (1)$$

what you here want to do is take the sum of all the possibilities for $k = 0$, $k = 1$ and so on until $k = n$, that is:

$$\sum_{k=0}^n \frac{n!}{k!(n-k)!} \quad (2)$$

and this, as is well known, totals to 2^n .

Therefore in your case you have 8 toppings, the total is $2^8 = 256$ possible combinations.