Listing all outcomes:

Used when two events occur at the same time.

Example:

There are two boxes of chocolates, one containing 9 chocolates with 3 different centres (3 x nutty, 3 x fruit, 3 x caramel) and one containing chocolates with 3 different coloured wrappers (3 x red, 3 x blue, 3 x yellow). When picking one from each box, what are the chances of picking a nutty centre and a red wrapper?

The Rules:

1. List out all the possible combinations:

Nutty centre, red	Caramel centre, red	Fruit centre, red
Nutty centre, blue	Caramel centre, blue	Fruit centre, blue
Nutty centre, yellow	Caramel centre, yellow	Fruit centre, yellow

2. Count up the different number of combinations.

There are 9 in the above example so the **chance** of picking any one of those is **1 in 9**

Probability			
Fraction	Decimal	Percentage	Probability of it not happening?
1/9	$0.\dot{1}1$	11%	1 - 0.11 = 0.99