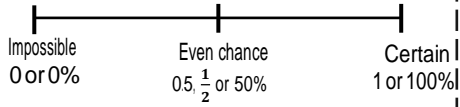


Year 9 Probability

The probability scale 0-1:



There are 2 pink and 2 yellow balls, so they have probability

More likely

There are 5 possible outcomes
So 5 intervals on this scale, each interval is equal to

Theoretical Probability:

Probability = $\frac{\text{number of times event happens}}{\text{Total number of outcomes}}$



$P(\text{Blue}) = \frac{4}{10}$ ← There are blue sectors

← There are 10 sectors overall

Probability notation
 $P(\text{event})$

Probability can be a fraction, Or value

$$\frac{4}{10} = \frac{40}{100} = 0.40 = \dots\%$$

Probability is always a value between 0 and ...

Sum of probabilities add to 1:

Probability is always a value between ... and 1



The probability of getting a blue ball is $\frac{1}{5}$

∴ The probability of NOT getting a blue ball is $\frac{4}{5}$

The sum of the probabilities is 1

Complementary events:

The table shows the probability of selecting a type of chocolate

Dark	Milk	White
0.15	0.35	



$$P(\text{white chocolate}) = 1 - 0.15 - 0.35 = \dots$$

Probability from sample space

The possible outcomes from rolling a dice

The possible outcomes from tossing a coin

	1	2	3	4	5	6
H	1,H	2,H	3,H	4,H	5,H	6,H
T	1,T	2,T	3,T	4,T	5,T	6,T

What is the probability that an outcome has an even number and a tails?

There are even numbers with tails

$$P(\dots) = \frac{3}{12} = \dots$$

Probability notation $P(\text{event})$

There are twelve possible outcomes

Relative Frequency

Frequency of event

Total number of outcomes

Dice roll	Frequency	Relative frequency
1	3	$\frac{3}{20} = 15\% = 0.15$
2	5	$\frac{5}{20} = \dots\% = 0.25$
3	2	$\frac{2}{20} = \dots\% = \dots$
4	2	$\frac{2}{20} = \dots\% = \dots$
5	3	$\frac{3}{20} = 15\% = 0.15$
6	5	$\frac{5}{20} = \dots\% = \dots$
Total	...	

Relative frequencies can be written as fractions, decimals or percentages.

Finding equivalent fractions with a denominator of 100 can help:

$$\frac{3}{20} = \frac{15}{100} = 15\% = 0.15$$

Remember to work out the total number of outcomes