

Higher Probability



Key Words

Probability	The chance of something happening.
Theoretical Probability	The expected probability of something happening. Eg We expect the number 3 on a dice to appear 1/6 times when rolled. The theoretical probability of a 3 is 1/6.
Relative Frequency (Experimental Probability)	This is the probability of something happening based on the outcomes of an experiment. Eg If we rolled a dice ten times and the number 3 appears twice it would have a relative frequency of 2/10.
Fair	Fair means when the relative frequency is close to the expected probability.
Bias	Bias means when the relative frequency is not close to the expected probability.

Key Facts

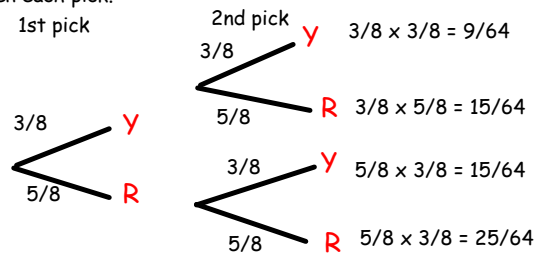
- Total probability must sum to 1 (a whole). This might also be 15/15 or 23/23 etc or 100%.
- Combining probabilities makes the chance of the outcome LESS likely if you want a AND b to happen, but makes the chance of the outcome MORE likely if you want a OR b to happen!
- When answering a probability question, you can choose to leave your answer as a decimal, fraction or percentage but NOT as a ratio!
- Generally speaking you will not be expected to simplify your fraction for probability questions unless the question asks you to leave your as a fraction in its simplest form.

Key Concepts Venn Diagrams

With replacement

Example Question:

List the probabilities of the all of the expected outcomes of picking two counters from a bag of 3 yellows and 5 reds when replacing between each pick.



With replacement

Example Question:

List the probabilities of the all of the expected outcomes of picking two counters from a bag of 3 yellows and 5 reds when not replacing between each pick.

