

$$x + y$$

$$x^2 - 4x + 3 = 0$$

$$(x-1)(x-3) = 0$$

$$a^m + a^n = a^{m+n}$$

PROBABILITY

MATHS

LEVEL 2

Study Checklist

If you've picked up this checklist, congrats! You've begun the first step in a system of resources designed to help you through the Probability external. To make the most of this, we suggest you sit down, grab a pen, and mark any points that you're feeling a little unsure of. Then, create a subject audit using our template, or refer to the page numbers to find the section in our walkthrough guide to help you out!

BASIC PROBABILITY

- I can explain what probability is [TBC]
- I can measure probability in fractions, percentages, and decimals/proportions [TBC]
- I can explain what 'favourable outcome' means [TBC]

PROBABILITY TREES

- I can explain what a probability tree is [TBC]
- I can draw a probability tree [TBC]
- I can explain why the denominator changes for each branch/trial in a probability tree [TBC]
- I can multiply along the branches to find the probabilities of those two outcomes [TBC]
- I can use the symbol $P(_)$ [TBC]
- I can make sure the total probability adds to one [TBC]

TWO-WAY TABLES

- I can explain what a two-way table is and what it is used for [TBC]
- I can use a two-way table to find a probability [TBC]
- I can explain how two-way tables that use proportions are different to tables with raw data [TBC]
- I can use a two-way table that has proportions instead of raw data [TBC]

THE NORMAL DISTRIBUTION

- I can list the four features of the normal distribution [TBC]
- I can list the three parameters of the normal distribution [TBC]
- I can explain what the mean is [TBC]
- I can explain what the standard deviation is [TBC]
- I can explain what the standard normal is and why we need it [TBC]
- I can convert to standard normal [TBC]
- I can use the equation $z = (x - \mu) / \sigma$ [TBC]
- I can explain the relationship between z-score and x [TBC]
- I can use my calculator to find distributed probabilities [TBC]
- I can find separate ranges [TBC]
- I can explain what the inverse normal is and when to use it [TBC]
- I can use inverse normal to find x, the mean, or the standard deviation [TBC]
- I can evaluate the claim of a normal/inverse normal problem by writing a brief sentence at the end of my calculations [TBC]

CONDITIONAL PROBABILITIES AND EXPECTED VALUE

- I can explain what expected value is [TBC]
- I can explain what theoretical probability is [TBC]
- I can explain what a trial is [TBC]
- I can explain what experimental probability is [TBC]
- I can explain the differences between theoretical and experimental probability [TBC]
- I can find the expected value [TBC]
- I can explain how conditional probability is different to normal probability [TBC]
- I can recognise 'if' and 'given that' questions as conditional probability [TBC]
- I can use the symbol '|' to show 'given that' [TBC]
- I can use the conditional probability equation: $P(B|A) = P(A \text{ and } B) / P(A)$ [TBC]
- I can use probability trees with conditional probability [TBC]

RISK AND RELATIVE RISK

- I can explain what risk is [TBC]
- I can calculate risk [TBC]
- I can explain what relative risk is and how it relates to absolute risk [TBC]
- I can use $(\text{risk of A}) / (\text{risk of B})$ to find relative risk [TBC]
- I can make a statement comparing risks that proves or disproves a claim [TBC]
- I can explain what a claim is and why we need to analyse them [TBC]
- I can analyse a claim by checking the relative risk [TBC]

