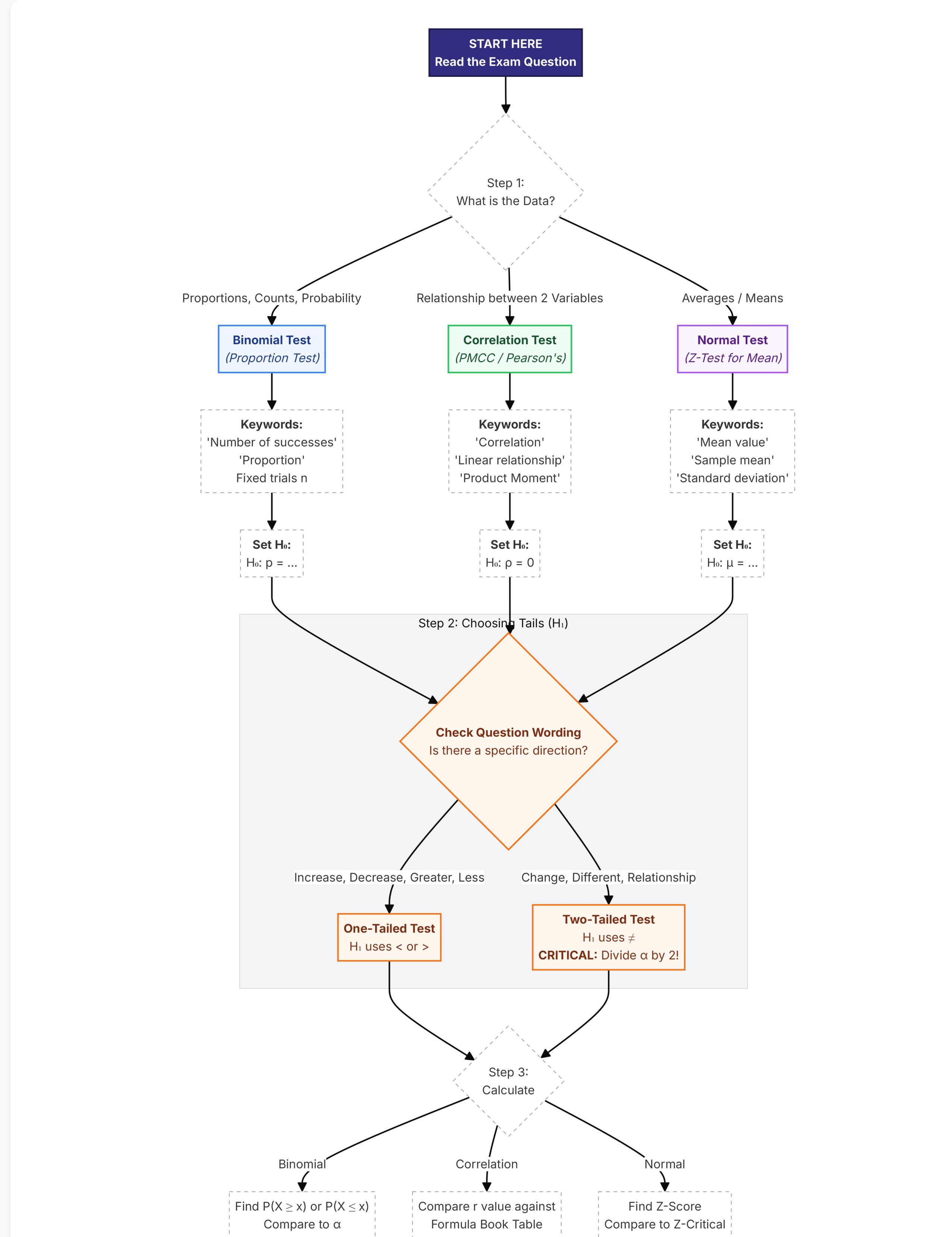


# Hypothesis Testing Decision Tree

Edexcel A Level Statistics (AS &amp; A Level)



## Binomial Test

AKA: Proportion Test

Symbol:  $p$  (Probability)Variable:  $X$  (Count)Distribution:  $X \sim B(n, p)$ 

Test: Calculate probability of result and more extreme.

## Correlation Test

AKA: PMCC, Pearson's, Linear

Symbol:  $\rho$  (Rho)Statistic:  $r$  (from calculator)

Note: Tests for Linear correlation only.

Test: Compare ' $r$ ' to critical value table.

## Normal Test

AKA: Z-Test, Test for Mean

Symbol:  $\mu$  (Mu - Mean)Statistic:  $\bar{x}$  (Sample Mean)Distribution:  $\bar{X} \sim N(\mu, \sigma^2/n)$ Test: Calc Z-score. If sample is large ( $n > 30$ ) but pop. not normal, cite CLT.

## Tails Guide

Critical Decision

One-Tailed (&lt; or &gt;)

"Increased", "Decreased", "More than", "Positive correlation".

Two-Tailed (#)

"Changed", "Different", "Is there a relationship?", "Is the coin biased?"

⚠️ ALERT: For 2-tailed, you MUST divide the significance level ( $\alpha$ ) by 2. (e.g. 5% becomes 2.5% at each end).