

**Paper Reference 1ST0/2H**  
**Pearson Edexcel**  
**Level 1/Level 2 GCSE (9–1)**

**Statistics**  
**PAPER 2**  
**Higher Tier**  
**(Calculator)**

**Monday 19 June 2023 – Afternoon**

**Formulae Pages**

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FORMULAE BOOKLET WITH  
THE QUESTION PAPER.**

# Higher Tier Formulae

$$\text{Skew} = \frac{3(\text{mean} - \text{median})}{\text{standard deviation}}$$

$$\text{Standard deviation} = \sqrt{\frac{1}{n} \sum (x - \bar{x})^2}$$

**An alternative formula for standard deviation is**

**standard deviation =**

$$\sqrt{\frac{\sum x^2}{n} - \left(\frac{\sum x}{n}\right)^2}$$

# Spearman's rank correlation coefficient

$$r_s = 1 - \frac{6 \sum d^2}{n(n^2 - 1)}$$

## Rates of change

(e.g. Crude birth rate =

$$\frac{\text{number of births} \times 1000}{\text{total population}}$$