

Welcome to A level
Mathematics Induction
25th June 2026
Haileybury Turnford School



Learning objectives:

- A level Maths Induction

Starter



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- A level Maths Induction

Learning objectives

- ❑ To gain an understanding of the requirements of your chosen subject in preparation for as September 2026 start

Key words:

Preparation
Organisation
Punctuality
Commitment
Success



Learning objectives:

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Explanation

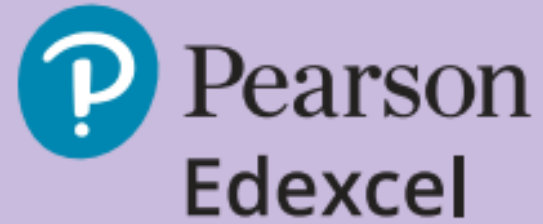
Core Expectations for **Every Lesson**

1. Attend lessons on time and in professional attire
2. Be prepared for each lesson by ensuring you bring the appropriate equipment
3. Ensure all work is organised in the appropriate section of your subject folder
4. All deadlines must be met to avoid a 6 week “Risk of Failure” program
5. Respect the classroom, Replace chairs, Rubbish in bins
6. Speak to **ALL** members of the HT community with respect
7. No mobile phones/ear pods to be used in lessons or around the school
8. Starters are to be completed in silence
9. Be proactive and not reactive
10. Expect to work harder than you ever have before



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A Level Mathematics

Specification

Pearson Edexcel Level 3 Advanced GCE in Mathematics (9MA0)



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Qualification at a glance

Content and assessment overview

The Pearson Edexcel Level 3 Advanced GCE in Mathematics consists of three externally-examined papers.

Students must complete all assessment in May/June in any single year.

Paper 1: Pure Mathematics 1 (*Paper code: 9MA0/01)

Paper 2: Pure Mathematics 2 (*Paper code: 9MA0/02)

Each paper is:

2-hour written examination

33.33% of the qualification

100 marks

Paper 3: Statistics and Mechanics (*Paper code: 9MA0/03)

2-hour written examination

33.33% of the qualification

100 marks



□ A level Maths Induction

Assessment information

- First assessment: May/June 2018.
- The assessment is 2 hours.
- The assessment is out of 100 marks.
- Students must answer all questions.
- Calculators can be used in the assessment.
- The booklet '*Mathematical Formulae and Statistical Tables*' will be provided for use in the assessment.



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Assessment Objectives

| Students must: | | % in GCE A Level |
|----------------|--|------------------|
| AO1 | Use and apply standard techniques Students should be able to: <ul style="list-style-type: none">• select and correctly carry out routine procedures; and• accurately recall facts, terminology and definitions | 48–52 |
| AO2 | Reason, interpret and communicate mathematically Students should be able to: <ul style="list-style-type: none">• construct rigorous mathematical arguments (including proofs)• make deductions and inferences• assess the validity of mathematical arguments• explain their reasoning; and | 23–27 |
| AO3 | Solve problems within mathematics and in other contexts Students should be able to: <ul style="list-style-type: none">• translate problems in mathematical and non-mathematical contexts into mathematical processes• interpret solutions to problems in their original context, and, where appropriate, evaluate their accuracy and limitations• translate situations in context into mathematical models• use mathematical models; and• evaluate the outcomes of modelling in context, recognise the limitations of models and, where appropriate, explain how to refine them. | 23–27 |



Breakdown of Assessment Objectives

| Paper | Assessment Objectives | | | Total for all Assessment Objectives |
|-----------------------------------|-----------------------|--------------|--------------|-------------------------------------|
| | AO1 % | AO2 % | AO3 % | |
| Paper 1: Pure Mathematics 1 | 16.00–17.33 | 8.66–10 | 6.33–7.67 | 33.33% |
| Paper 2: Pure Mathematics 2 | 16.00–17.33 | 8.66–10 | 6.33–7.67 | 33.33% |
| Paper 3: Statistics and Mechanics | 16.00–17.33 | 5.66–7.00 | 10.33–11.67 | 33.33% |
| Total for GCE A Level | 48-52 | 23-27 | 23-27 | 100% |







NB: Totals have been rounded either up or down.



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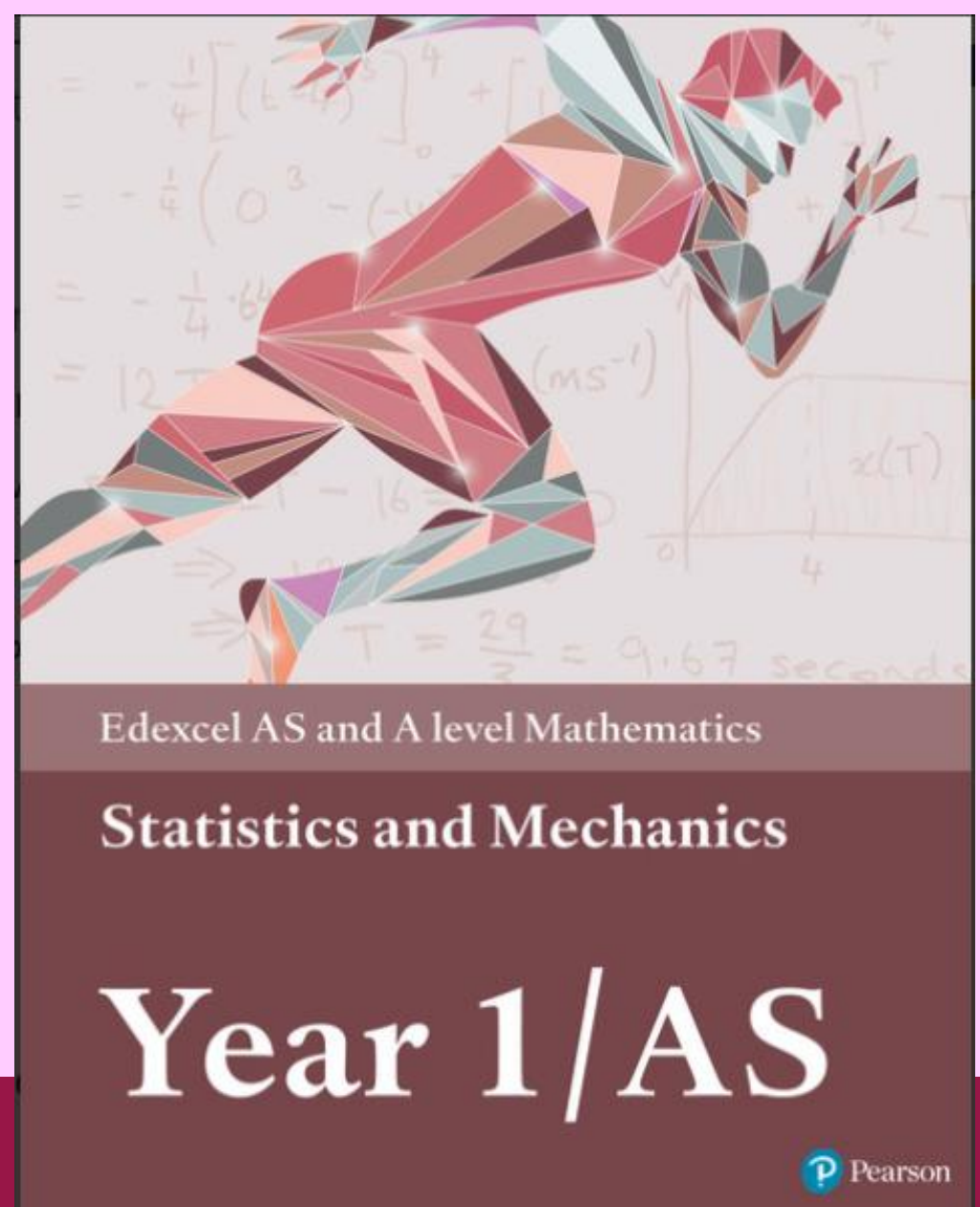
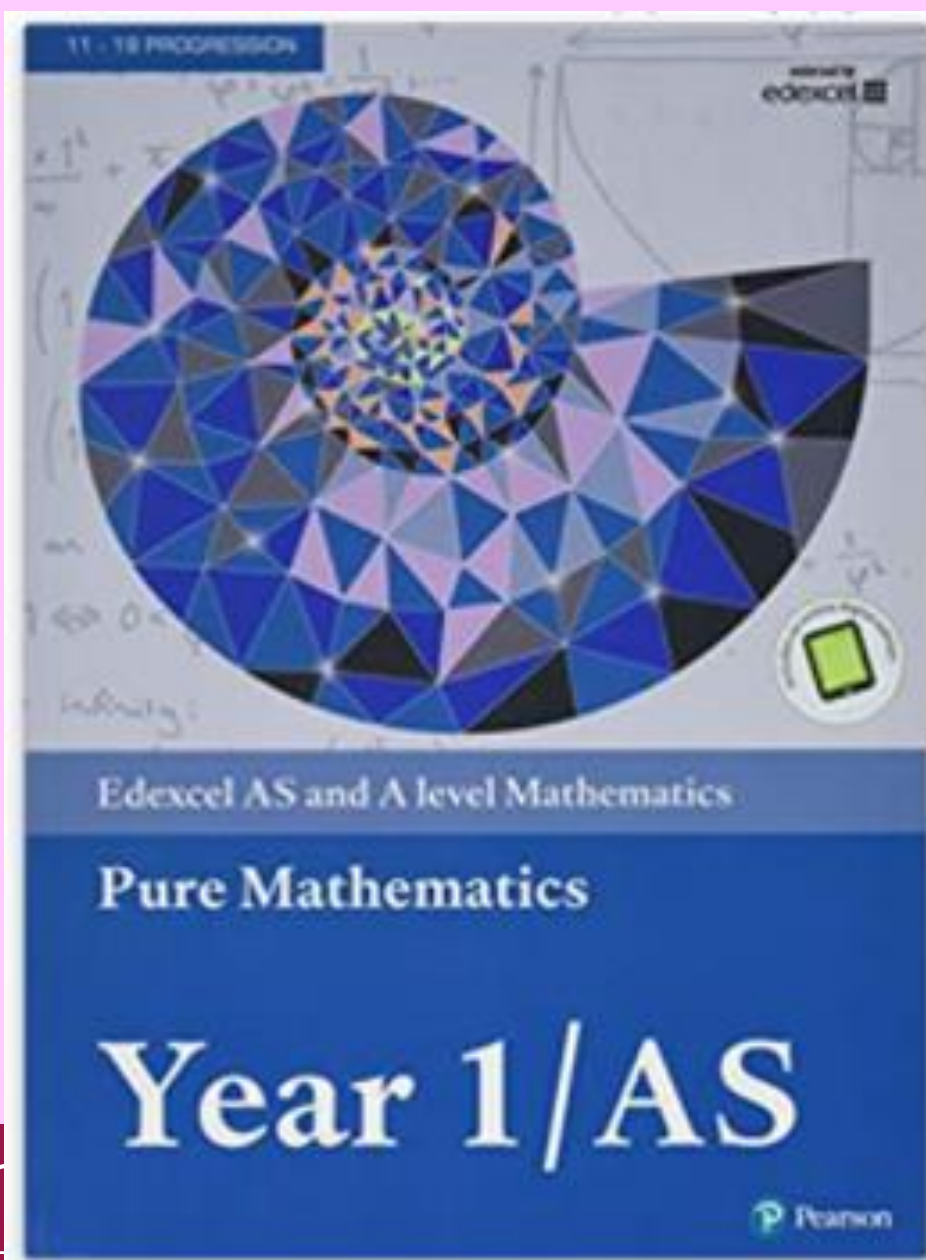
AS and A level Mathematics

| Qualification | Component | Overview | Assessment |
|---------------------|--|---|--|
| A level Mathematics | Paper 1: Pure Mathematics 33.3% weighting | Any Pure Mathematics content can be assessed on either paper |  2 hours  100 marks |
| | Paper 2: Pure Mathematics 33.3% weighting | |  2 hours  100 marks |
| | Paper 3: Statistics and Mechanics 33.3% weighting | Section A: Statistics (50 marks) Section B: Mechanics (50 marks) |  2 hours  100 marks |



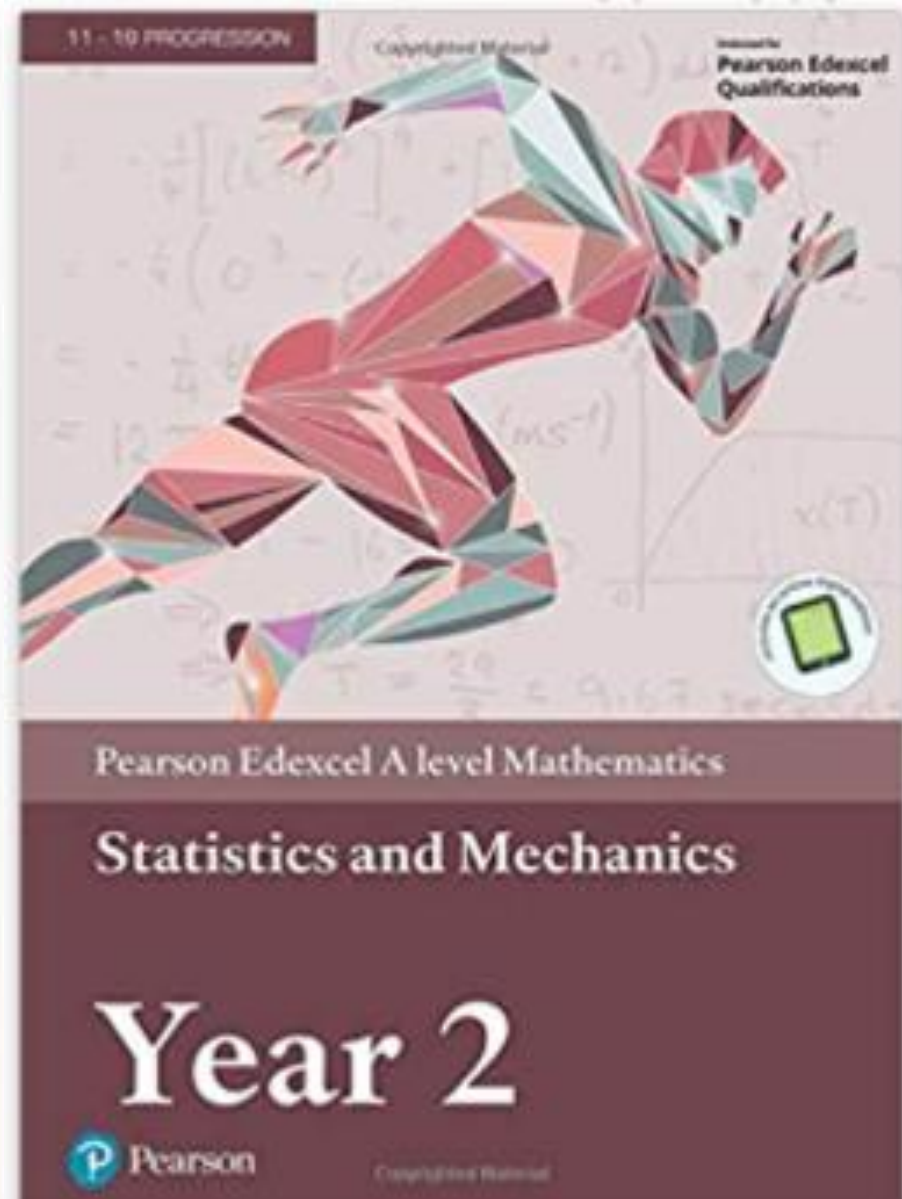
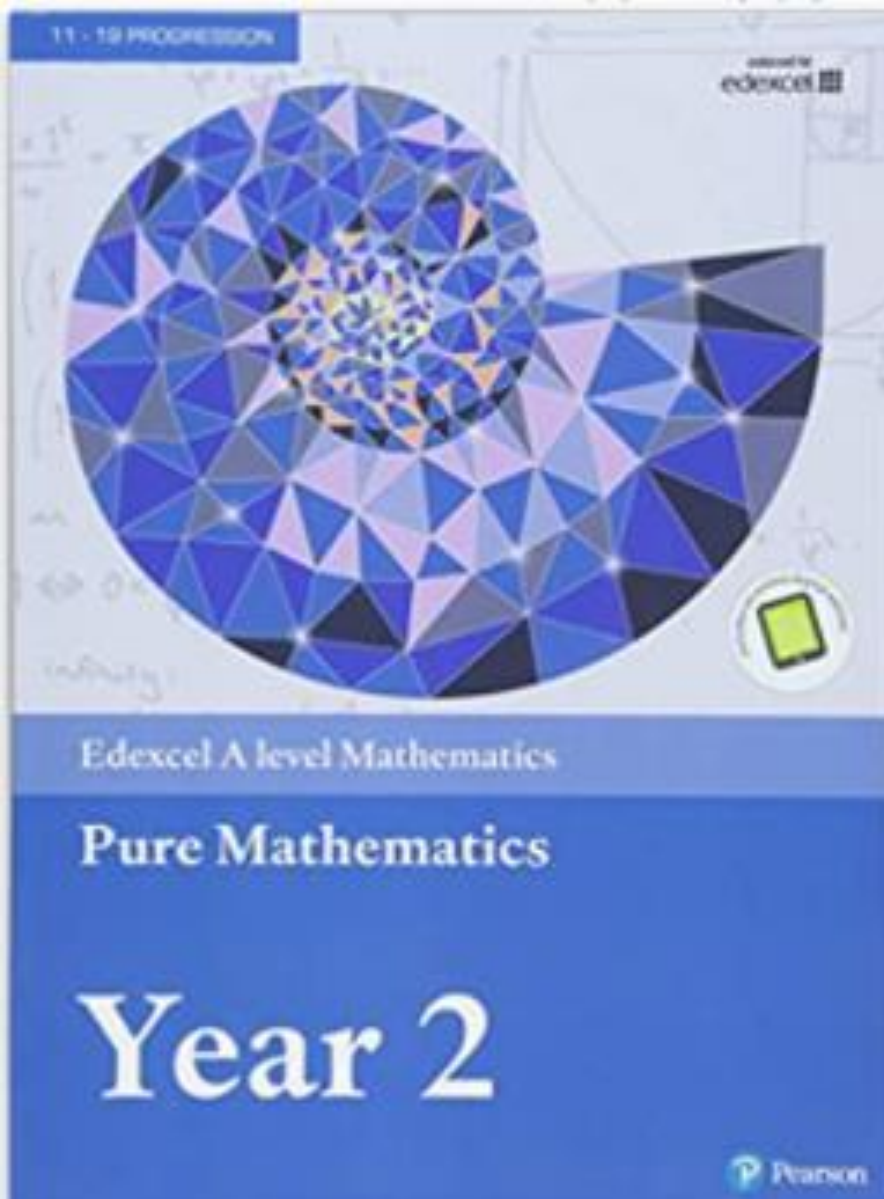
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Learn

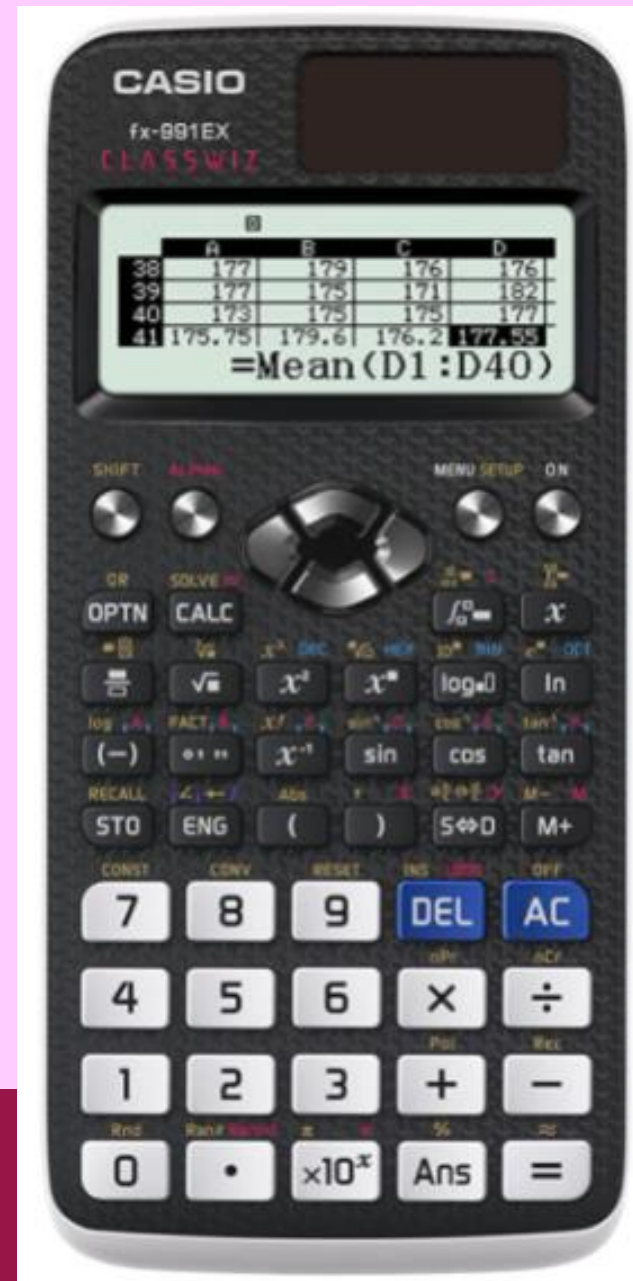
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Learn

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CASIO FX-991EX Advanced
Engineering/Scientific
Calculator (UK VERSION),



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1. In this question you must show all stages of your working.
Solutions relying on calculator technology are not acceptable.

Find the values of x for which

(a) $4(x - 3) > 8 - 2x$ (2)

(b) $(2x + 5)(x - 8) < 0$ (2)

(c) both $4(x - 3) > 8 - 2x$ and $(2x + 5)(x - 8) < 0$ (1)

- (a) Fully factorise

$$8x^3 + 31x^2 - 4x \quad (2)$$

- (b) Hence solve

$$8 \times 64^y + 31 \times 16^y - 4 \times 4^y = 0 \quad (2)$$

DO NOT WRITE IN THIS AREA

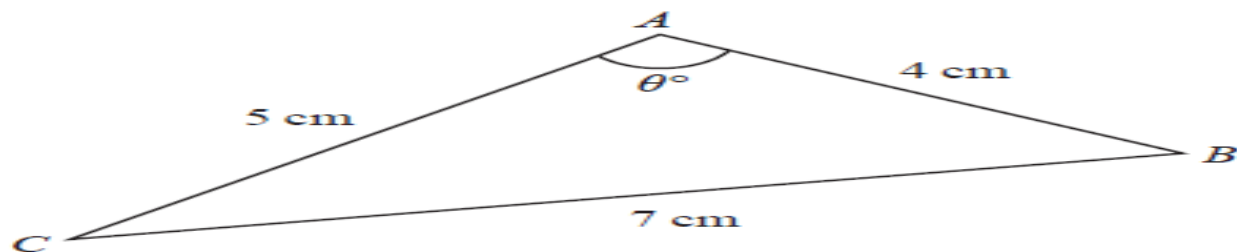


Figure 1

In this question you must show all stages of your working.
Solutions relying on calculator technology are not acceptable.

Figure 1 is a sketch of a triangle ABC with $AB = 4$ cm, $BC = 7$ cm and $AC = 5$ cm.

Given that angle $BAC = \theta^\circ$

(a) show that $\cos \theta^\circ = -\frac{1}{5}$ (2)

(b) Hence find the area of triangle ABC , giving your answer in cm^2 as a fully simplified surd. (4)