



# Syllabus Change Mapping Document for *Cambridge International AS & A Level Mathematics Pure Mathematics 2 & 3 Student's Book Second Edition*

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*We are working with Cambridge Assessment International Education towards endorsement of this forthcoming title*

Take mathematical understanding to the next level with this accessible series, written by experienced authors, examiners and teachers.

Find out how our new Pure Mathematics 2 & 3 Student's Book covers the changes in the revised Cambridge International AS & A Level Mathematics syllabus (9709) from 2020 below. For more information about the full series of five Student's Books and components for this syllabus, go to [www.hoddereducation.com/cambridgeasalevelmathematics](http://www.hoddereducation.com/cambridgeasalevelmathematics)

### **Changes to the syllabus for first examination from 2020**

Please visit [www.cambridgeinternational.org](http://www.cambridgeinternational.org) for information about current syllabuses and full details of changes

The syllabus for **Pure Mathematics 2** is now organised into the following main topics:

- 2.1 Algebra
- 2.2 Logarithmic and exponential functions
- 2.3 Trigonometry
- 2.4 Differentiation
- 2.5 Integration
- 2.6 Numerical solutions of equations

New areas of study include the following:

<b>New content in syllabus</b>	<b>Chapter in Hodder Education book</b>
<b>2.1 Algebra</b> <ul style="list-style-type: none"> <li>• sketch the graph of <math>y =  ax + b </math></li> </ul>	Chapter 1

**2.5 Integration:** trapezium rule retained, but formula for it removed from list of formulae (MF19).

The syllabus for **Pure Mathematics 3** is now organised into the following main topics:

- 3.1 Algebra
- 3.2 Logarithmic and exponential functions
- 3.3 Trigonometry
- 3.4 Differentiation
- 3.5 Integration
- 3.6 Numerical solution of equations
- 3.7 Vectors
- 3.8 Differential equations
- 3.9 Complex numbers

New areas of study include the following:

New content in syllabus	Chapter in Hodder Education book
<b>3.1 Algebra</b> <ul style="list-style-type: none"> <li>sketch the graph of <math>y =  ax + b </math></li> </ul>	Chapter 1
<b>3.4 Differentiation</b> <ul style="list-style-type: none"> <li>use the derivatives of <math>\tan^{-1} x</math></li> </ul>	Chapter 8
<b>3.5 Integration</b> <ul style="list-style-type: none"> <li>extend the idea of 'reverse differentiation' to include the integration of <math>e^{ax+b}</math>, <math>\frac{1}{ax+b}</math>, <math>\sin(ax + b)</math>, <math>\cos(ax + b)</math>, <math>\sec^2(ax + b)</math> and <math>\frac{1}{x^2+a^2}</math></li> </ul>	Chapter 8
<b>3.7 Vectors</b> <ul style="list-style-type: none"> <li>use standard notations for vectors, i.e. <math>\begin{pmatrix} x \\ y \end{pmatrix}</math>, <math>x\mathbf{i} + y\mathbf{j}</math>, <math>\begin{pmatrix} x \\ y \\ z \end{pmatrix}</math>, <math>x\mathbf{i} + y\mathbf{j} + z\mathbf{k}</math>, <math>\overrightarrow{AB}</math>, <math>\mathbf{a}</math></li> <li>carry out addition and subtraction of vectors and multiplication of a vector by a scalar, and interpret these operations in geometrical terms</li> <li>calculate the magnitude of a vector, and use unit vectors, displacement vectors and position vectors</li> <li>use formulae to calculate the scalar product of two vectors, and use scalar products in problems involving lines and points</li> </ul>	Chapter 10

Topics in the current syllabus which will no longer be covered include:

- 3.5 Integration:** The trapezium rule is being removed from Paper 3 from 2020. This topic will not be assessed in this component.
- 3.7 Vectors:** vector equations of planes removed.

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