

# STEP UP TO 6TH FORM

KIMBERLEY SCHOOL TRANSITION INFORMATION

## Mathematics & Further Mathematics A Level AQA

### COURSE DETAILS

#### MATHEMATICS

##### Pure

- Proof
- Algebra and functions
- Coordinate geometry in the (x,y) plane
- Sequences and series
- Trigonometry
- Exponentials and logarithms
- Differentiation
- Integration
- Vectors
- Numerical Methods

##### Mechanics

- Quantities and units in mechanics
- Kinematics
- Forces and Newton's laws
- Moments

##### Statistics

- Statistical sampling
- Data presentation and interpretation
- Probability
- Statistical distributions
- Statistical hypothesis testing

#### EXAMS

3x 2hr (33.3333333333...%)



#### LINK TO THE SPECIFICATION

See a detailed document of what we will cover in this course:

Mathematics:

<https://filestore.aqa.org.uk/resources/mathematics/specifications/AQA-7357-SP-2017.PDF>

Further Mathematics:

<https://filestore.aqa.org.uk/resources/mathematics/specifications/AQA-7367-SP-2017.PDF>

#### FURTHER MATHEMATICS

##### Pure

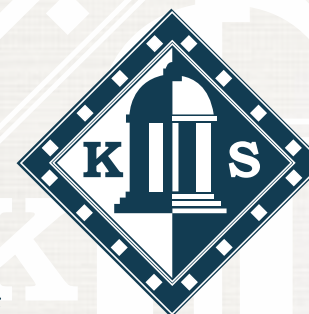
- Proof
- Complex numbers
- Matrices
- Further algebra and functions
- Further calculus
- Further vectors
- Polar coordinates
- Hyperbolic functions
- Differential Equations

##### Mechanics

- Dimensional analysis
- Momentum and collisions
- Work, energy and power
- Circular motion
- Centres of mass and moments

##### Discrete

- Graphs
- Networks
- Network flows
- Linear programming
- Critical path analysis
- Game theory for zero-sum games
- Binary operations and group theory



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## Mathematics & Further Mathematics A Level AQA

Work you can do to prepare for A Level study

### Live Lessons Online

Free, live lessons "Getting ready for A-level Maths...":

Hegarty Maths is streaming live lessons every week on topics that are crucial for the Mathematics A-level. Log in to [www.hegartymaths.com](http://www.hegartymaths.com) to find links to the next live lesson, all the previous lesson videos, teacher notes and student notes.

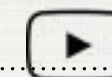
### Developing reasoning and problem solving

Go to [www.ukmt.org.uk](http://www.ukmt.org.uk) to gain free access to the Intermediate Mathematical Challenge papers and solutions from the past 6 years. Remember that all you need is GCSE mathematics, a pencil and paper!



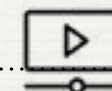
#### YOUTUBE

Numberphile  
Hegarty Maths



#### FILM & TV

Hidden Figures  
The Man Who Knew Infinity  
Pi (1998)  
The Imitation Game



#### BOOKS

The Codebook – Simon Singh  
Fermat's Last Theorem – Simon Singh  
Does God Play Dice? – Ian Stewart  
The Music of the Primes – Marcus du Sautoy  
Alex's Adventures in Numberland – Alex Bellios



#### USEFUL RESOURCE LINKS

For content and wider reading [www.khanacademy.org/](http://www.khanacademy.org/)

For consolidation of GCSE topics: [www.hegartymaths.com](http://www.hegartymaths.com) or [www.bbc.co.uk/bitesize](http://www.bbc.co.uk/bitesize)

For user-friendly graphical software: [www.desmos.com](http://www.desmos.com) (also available on smart devices)

