

## **Year 10 Higher Links HT 5 – Easter – May**

Follow any instructions next to each group of topics but generally follow instructions below.

1. Students should watch the videos - pausing to make notes/attempt questions.
2. Attempt "Textbook Exercises" - mark work using "Textbook Answers"
3. Attempt "Practice Questions" - mark work using "Practice Question answers" some students will want to do this straight away some students may want to attempt this the next day to see what they've remembered.

\*please report any broken links to Mr Horrocks [m.horrocks@durhamjohnston.org.uk](mailto:m.horrocks@durhamjohnston.org.uk)

### **Surds – the time given is just a guidance students may take longer or shorter.**

Lesson 1 (1-3 hours)

Surds: intro, rules, simplifying

[Video 305](#)

[Textbook Exercise](#)

[Textbook Answers](#)

Watch Video – make notes – complete textbook exercise Q1-10 if stuck go back to video. Mark Work using textbook answers.

Lesson 2 (1 hour)

Surds: addition/subtraction

[Video 306](#)

[Textbook Exercise](#)

[Textbook Answers](#)

Watch Video – make notes – complete textbook exercise Q11-12 if stuck go back to video. Mark Work using textbook answers.

Lesson 3 (1 hour)

Surds: expanding brackets

[Video 308](#)

[Textbook Exercise](#)

[Textbook Answers](#)

Watch Video – make notes – complete textbook exercise Q13-15 if stuck go back to video. Mark Work using textbook answers.

Lesson 4 (1 hour)

Surds: rationalising denominators

[Video GCSE](#)

[Textbook Exercise](#)

[Textbook Answers](#)

Watch Video – the next two examples are Further Maths only – make notes – complete textbook exercise Q16 if stuck go back to video.

Mark Work using textbook answers.

NOTE Q17 is not on the GCSE course but is on the Further Maths Course see video for guidance - [Video 307](#)

Application (1 hour) – this has some hard question in it.

1 Hour – Complete apply section from the textbook

[Textbook Exercise](#)

[Textbook Answers](#)

Review (1 hour) – Complete Practice Questions

[Practice Questions](#)

[Practice Questions answers](#)

### **Circle Theorems – the time given is just a guidance students may take longer or shorter.**

Lesson 1 (1 hour) – Taking Notes – you will need a ruler, pencil and something to draw a circle around e.g. a large coin or use a compass

Watch Video 64 and 65 – drawing out each example

[Video 64](#)

[Video 65](#)

Lesson 2 (2-3 hours) – Attempt the textbook exercises – the questions get harder and harder and have applications of Pythagoras and Trigonometry from last half term.

[Textbook Exercise](#)

[Textbook answers](#)

Review (1 hour) – Complete Practice Questions -

[Practice Questions](#)

[Practice Questions answers](#)

### **Probability – the time given is just a guidance students may take longer or shorter.**

Lesson 1 (1 hour) – Recap Basics – watch videos – complete textbook exercise – mark questions.

Probability: OR rule

[Video 244](#)

Probability: basic

[Video 245](#)

Probability: not happening

[Video 250](#)

[Textbook Exercise](#)

[Textbook answers](#)

Review (1 hour)- Complete Practice questions -

[Practice Questions](#)

[Practice Questions answers](#)

Lesson 2 (1 hour) – Sample Space – watch video – complete textbook exercise – mark. Review with Practice Questions.

Probability: sample space

[Video 246](#)

[Textbook Exercise](#)

[Textbook answers](#)

[Practice Questions](#)

[Practice Questions answers](#)

Lesson 3 (1 hour) – Relative Frequency – watch video – complete textbook exercise – mark. Review with Practice Questions.

Probability: relative frequency

[Video 248](#)

[Textbook Exercise](#)

[Textbook answers](#)

[Practice Questions](#)

[Relative Frequency answers](#)

Lesson 4 (1 hour) – Independent Events – watch video – complete textbook exercise – mark. Review with Practice Questions.

Probability: independent events

[Video 249](#)

[Textbook Exercise](#)

[Textbook answers](#)

[Practice Questions](#)

[Practice Questions answers](#)

Lesson 5 (1-2 hours) – Tree Diagrams – watch video – complete textbook exercise – mark. Review with Practice Questions.

Probability: tree diagrams

[Video 252](#)

[Textbook Exercise](#)

[Textbook answers](#)

[Practice Questions](#)

[Practice Questions answers](#)

Lesson 6 (1-2 hours) – Conditional Probability – watch video – complete textbook exercise – mark. Review with Practice Questions.

Probability: conditional

[Video 247](#)

[Textbook Exercise](#)

[Textbook answers](#)

[Practice Questions](#)

[Practice Questions answers](#)

## **Constructions – the time given is just a guidance students may take longer or shorter.**

For the following questions students need a pencil and a compass.

### Lesson 1 (1-2 hours) – Constructing Triangles

Watch videos completing each construction from the videos - textbook exercise – mark questions.

Constructions: triangles ASA

[Video 81](#)

Constructions: triangles SAS

[Video 82](#)

Constructions: triangles SSS

[Video 83](#)

[Textbook Exercise](#)

[Textbook answers](#)

Review (1hour) – Complete Practice Questions

[Practice Questions](#)

[Practice Questions answers](#)

### Lesson 2 (1-2 hours) – Constructing Bisectors

Watch videos completing each construction from the videos - textbook exercise – mark questions.

Constructions: perpendicular bisector

[Video 78](#)

Constructions: angle bisector

[Video 72](#)

[Textbook Exercise](#)

[Textbook answers](#)

### Lesson 3 (1-2 hours) – Constructions – Further

Watch videos completing each construction from the videos - textbook exercise – mark questions.

Constructions: perpendicular to point

[Video 79](#)

Constructions: perpendicular: point on line

[Video 80](#)

[Textbook Exercise](#)

NO ANSWERS YET

Review (1hour) – Complete Practice Questions

[Practice Questions](#)

[Practice Questions answers](#)

### Lesson 3 (1-2 hours) – Constructions Loci

Watch videos completing each construction from the videos - textbook exercise – mark questions.

Constructions: loci part 1

[Video 75](#)

Constructions: loci part 2

[Video 76](#)

Constructions: loci part 3

[Video 77](#)

[Textbook Exercise](#)

[Textbook answers](#)

Review (1hour) – Complete Practice Questions

[Practice Questions](#)

[Practice Questions answers](#)

## Other Links

You should join [Khan Academy](#) This provides thousands of hours of videos in maths and also computer science at all levels from kindergarten to undergraduate and beyond. They are building up content in a number of other areas. They have a huge set of interactive practice exercises and mastery challenges. You earn points for watching videos and solving problems. There are badges for achieving mastery of topics and whole areas. I have an embarrassing 1,500,000 points and 452 badges. See if you can beat me. My username on Khan Academy is DrMThornber.

Why not try the 5-a-day questions? – set for a range of different levels – all with solutions.

<https://corbettmaths.com/5-a-day/gcse/>

Fancy a challenging puzzle? Try the Corbett Maths Conundrums

<https://corbettmaths.com/more/corbetts-conundrums/>