

# A level Further Mathematics

## Year 12 into Year 13 SIL ([Teams Link](#))

Hand in your completed SIL to your teacher in the first lesson of Y13

### Part 1 – Compulsory Content

#### Task 1: Volumes of Revolution and Mean of a Function

Resources link to the Teams Folder: [Task 1](#)

For this task you will need:

- [Gapped Notes](#)
- [Powerpoint with voice over](#)
- [Volumes of revolution exercises](#)
- [Mean of a function exercise](#)

- a) Play the voice over Powerpoint up to slide 8 (if you experience any problems hearing the voice over try downloading the powerpoint instead of playing through the web), and use this to complete the corresponding examples in your gapped notes.
- b) Work through the even numbered questions in the exercises. Mark your own work using the answers provided. Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required.
- c) Play slides 10 and 11 of the Powerpoint and use this to complete your gapped notes.
- d) Work though the even numbered questions on the exercise. Mark your own work using the answers provided. Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required. Use the table below to keep a record of your work for task 1.

	Completed	Notes (e.g. questions to ask / key learning points)
Task 1a		
Task 1b		
Task 1c		
Task 1d		

## **Task 2: Series (including Introduction to MaLaurin)**

Resources link to the Teams Folder: [Task 2](#)

For this task you will need:

- [Gapped Notes](#)
- [Powerpoint with voice over](#)
- [Exercises](#)

- a) Play the voice over Powerpoint up to slide 9, and use this to complete the corresponding examples in your gapped notes.
  
- b) Work through the even numbered questions in the first exercise. Mark your own work using the answers provided.  
 Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required.
  
- c) Play the remaining slides from the Powerpoint and use this to complete your gapped notes.
  
- d) Work though the even numbered questions on the second exercise and work through the stated questions on the 3<sup>rd</sup> exercise. Mark your own work using the answers provided.  
 Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required.

Use the table below to keep a record of your work for task.

	Completed	Notes (e.g. questions to ask / key learning points)
Task 2a		
Task 3b		
Task 4c		
Task 4d		

### **Task 3: Proof by Induction**

Resources link to the Teams Folder: [Task 3](#)

For this task you will need:

- [Gapped Notes](#)
- [Powerpoint with Voice Over](#)
- [Exercises](#)

- a) Play the voice over Powerpoint up to slide 4, and use this to complete the corresponding examples in your gapped notes.
  
- b) Work through the even numbered questions in the first exercise. Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required.
  
- c) Play up to slide 6. Complete gap notes and then work through the even numbers of the second exercise.
  
- d) Work though rest of powerpoint and then even numbers on exercise 3. Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required.

Use the table below to keep a record of your work for task.

	Completed	Notes (e.g. questions to ask / key learning points)
Task 2a		
Task 3b		
Task 4c		
Task 4d		

## **Task 4: Introduction to Hyperbolics**

Resources link to the Teams Folder: [Task 4](#)

For this task you will need:

- [Gapped notes](#)
- [Powerpoint with voiceover](#)
- [Exercises](#)

- a) Play the voice over Powerpoint up to slide 9, and use this to complete the corresponding examples in your gapped notes.
- b) Work through questions stated on slide 9. Mark your own work using the answers provided. Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required.
- c) Work through slides 10 and 11. Then questions on slide 11. Marking as you go and making a note of any problems.
- d) Work though to slide 15. Then complete questions on slide 15. Marking as you go and making a note of any problems.

Use the table below to keep a record of your work for task.

	Completed	Notes (e.g. questions to ask / key learning points)
Task 2a		
Task 3b		
Task 4c		
Task 4d		

## **Task 5: Introduction to Complex Numbers**

Resources link to the Teams Folder: [Task 5](#)

For this task you will need:

- [Gapped notes](#)
- [Powerpoint with voice over](#)
- [Exercises](#)

- a) Play the voice over Powerpoint up to slide 7, and use this to complete the corresponding examples in your gapped notes.
- b) Work through the questions from the exercises states on slide 7. Mark your own work using the answers provided. Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required.
- c) Play the remaining slides from the Powerpoint and use this to complete your gapped notes.
- d) Work though the questions from the exercise states on slide 18. Mark your own work using the answers provided.  
Make a note of any problems that you need to ask about and use the odd numbered questions for additional practise where required.

Use the table below to keep a record of your work for task.

	Completed	Notes (e.g. questions to ask / key learning points)
Task 2a		
Task 3b		
Task 4c		
Task 4d		

