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 9 (if you experience any problems hearing the voice over try downloading the powerpoint instead of playing through the web, equally if you experience problems with the voiceover timing not matching the slide animation then you can watch by clicking "Record Slideshow" and pressing play), and use this to complete the corresponding examples in your gapped notes.

b) Work through the even numbered questions in the exercises (5A/5B/5C/5D/Mixed). 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 - 13 of the Powerpoint and use this to complete your gapped notes.

d) Work though the even numbered questions on the exercise (4.1B). 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)
Tasks 5A/5B/5C/5D/Mixed		
Task 4.1B		

Task 2: Series (including Introduction to MacLaurin)

Resources link to the Teams Folder: Task 2

For this task you will need:

- Gapped Notes
- Powerpoint with voice over part 1
- Powerpoint with voice over part 2
- Exercises

a) Play the voice over Powerpoint part 1 up to slide 8, and use this to complete the corresponding examples in your gapped notes.

b) Work through the even numbered questions in the first exercise (11B). 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 (11C) and work through the stated questions on the 3rd 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.

e) Play Powerpoint part 2 all the way through and then work through the questions stated for the third exercise (11D)

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

	Completed	Notes (e.g. questions to ask / key learning points)
Task 11B		
Task 11C		
Task 11D		

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 7. 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 1		
Task 2		
Task 3		

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 (5A). 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 (5B). Marking as you go and making a note of any problems.

d) Work though to slide 15. Then complete questions on slide 15 (5C). 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 5A		
Task 5B		
Task 5C		

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 8, and use this to complete the corresponding examples in your gapped notes.

b) Work through the questions from the exercises stated on slide 8. 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 19. 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 1a		
Task 1b		
Task 2a		
Task 2b		

Part 2 – Highly recommended

Task 6 – Further Core Mathematics – Mixed retrieval – Based on tasks above

Resources link to the Teams Folder: SIL Part 2

Complete the following mixed retrieval exercise (mix of exam style questions covering topics above).

Mark your work using the worked solutions provided in the above folder.

Use the table below to keep track of your work and write down any questions that you need to ask when you get back into college.

Qu	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	TOTAL
Score																					
Max																					