

2024 Specialist Maths Units 3 & 4

What you need to do before the start of Term 1, 2024:

(Don't do this all in one go! You'll be much better prepared if you come back to the same ideas multiple times).

1. Complete the following exercises from Chapter 1 in your textbook, which cover some preliminary skills. These should be largely familiar from previous work but definitely benefit from practice.

Exercise 1A	4, 6, 7, 8, 10ef, 11cde, 15bd, 16cd
Exercise 1B	2, 3, 5, 6
Exercise 1C	1, 3, 9, 10, 13
Exercise 1D	1, 2ace, 3abde, 4, 7, 8
Exercise 1E	2ac, 3cef, 4bdf, 8
Exercise 1F	1acegi, 2abdfh, 6, 7
Exercise 1G	1, 2, 3, 4, 5fghi, 6bdf, 7, 10, 11

If any of these exercises are a bit sketchy, add some additional questions in.

2. Complete the following exercises from Chapter 2 in your textbook, which revise proof theory from Unit 1. Proof will appear across many topics in your Units 3 and 4 course and is examined. It will be a regular part of your work, not a topic we study on its own.

Exercise 2A	1, 3, 4, 6, 10, 12, 14, 16, 18, 19, 22, 23, 26
Exercise 2B	1, 2, 3, 4, 5
Exercise 2E	1, 2, 4aeim, 5, 6aceg, 7, 9, 12

4. We'll be using some differentiation skills from Units 3 and 4 Methods very early in Term 1. We'll run through these, but you'll feel more confident if you've already got a good amount of practice behind you. If you've not already covered the *Chain Rule*, *Product Rule* and *Quotient Rule* in your Methods work (including any summer preparation work you might have for Methods), you can get a useful head start by learning and practising these from your Methods textbook. They're simple rules that just need to be learnt – the main point is recognising *when* you need to apply them, and *which* rule you should be using!
5. Complex Numbers and Vectors are two important topic areas introduced in Unit 2 Specialist. The Unit 3 and 4 course assumes you're confident with this introductory knowledge. If not, spend some time revising and practising. These topics won't appear immediately, but it's hard to find time to fill in any significant gaps once the course gets going.

Over the break, please **manage your time well**. We want you to start 2024 confident and ready to go, but you also need to feel like you've had a break, are full of energy, and able to sustain your study through the whole year.

When you do sit down to do some work, **give it your full attention**. Keep track of what you've done, along with anything you need to follow up at the start of next year.