



QUICK GUIDE MATH STRATEGIES

Studying mathematics trains your brain to think logically, accurately and carefully. Maths is broken up into smaller segments for you to study, this allows you to look at one new concept at a time and gradually build your knowledge, experience and confidence.

Adapted from Academic Success USQ <https://usq.pressbooks.pub/academicsuccess/>

| Strategies | Descriptions |
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| <p>Build your knowledge and skills with practice</p> | <ul style="list-style-type: none"> • Learning maths is like learning a new language. • Start early when studying maths. Study shouldn't be left to just before assignments are due or just before exams. • Regular practice is essential for you to success with maths. No one becomes good at anything without practice • Practise your maths every day, so you become familiar with the relevant concepts and skills required to solve the different problems • Use good time management strategies to help you make time for practice • Master the foundations at the beginning of the course before progressing to harder material. • Show all working, when you are practising maths questions. This allows you to fully practise setting out the steps and processes of the maths concept you are studying. It helps to identify any mistakes you may make • Repetition through practising questions will help you recognise similar problems using the same processes. |
| <p>When studying maths content</p> | <ul style="list-style-type: none"> • Scan the weekly content outcomes to get an idea of what will be covered, prior to each lecture or workshop. • Start at the beginning of each topic; work in a methodical way and attempt all questions. • Do not skip slides, pages or sections. Maths requires strong foundational knowledge and skills that you build upon. • Aim to have a complete understanding of a topic. If you do not understand a concept yet, look for other resources that may explain it in a different way. • Summarise content as you work through it. • List any new formulae and problem-solving techniques. • Make a note of anything you do not understand. • Find a study buddy to talk about your maths and to clarify any problems. You can do this with friends, peers in your workshops (in person or online). • Contact your lecturer/tutor if you get stuck. They can make suggestions about where to go for support if needed. Refer to seeking support section below. |
| <p>When developing Problem Solving Strategies</p> | <p>Problem solving is a skill that needs to be practiced and developed to make you a stronger mathematician. Most people find problem-solving challenging and need to spend time developing their skills and knowledge.</p> |



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| | <ul style="list-style-type: none">• Read the question or problem carefully and identify what you are expected to find.• Re-write the key information from the question. Identify which information is needed OR not needed for solving the problem. Refer to this when solving, rather than sorting through the information in the question each time.• Express the given information in mathematical terms, defining any variables that you are given and noting any special conditions.• Break down the problem into smaller parts.• Estimate the answer to the part of the problem that you cannot solve yet and proceed from there.• Decide which of the skills or techniques you have learnt in the subject that could be applied to solve the problem. Apply the technique you think will solve the problem.• Check that your answer to the problem makes sense. |
| When you are “stuck” on a problem | <ul style="list-style-type: none">• Read the question again slowly.• Check that you copied down everything correctly, without any errors.• Scan for errors in your calculations.• Look back at your working and answers to similar questions.• Start with a fresh page where you cannot see what you have done previously.• Leave the problem for another day.• Ask for help from lecturer/tutor/peer or support services. |
| When seeking support | <ul style="list-style-type: none">• Be organised and specific. Identify what you don’t understand. Make a list of problems that need clarifying, along with your working.• Attempt to solve a problem yourself first and have your working available. It will also show where your understanding is lacking and where you became stuck.• Attempt similar problems from the study materials or textbooks/websites that have answers provided.• Attend PASS (Peer Assisted Study Sessions) if it is offered in your subject.• Find other support options. EG; form study groups (online or in person), refer to Khan Academy (online resource), drop into the Peer Advice Desk (ground floor of the library), or make an appointment to meet with a Learning Advisor.• Contact your lecturer if you get stuck. They can suggest where to seek support if needed. |
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