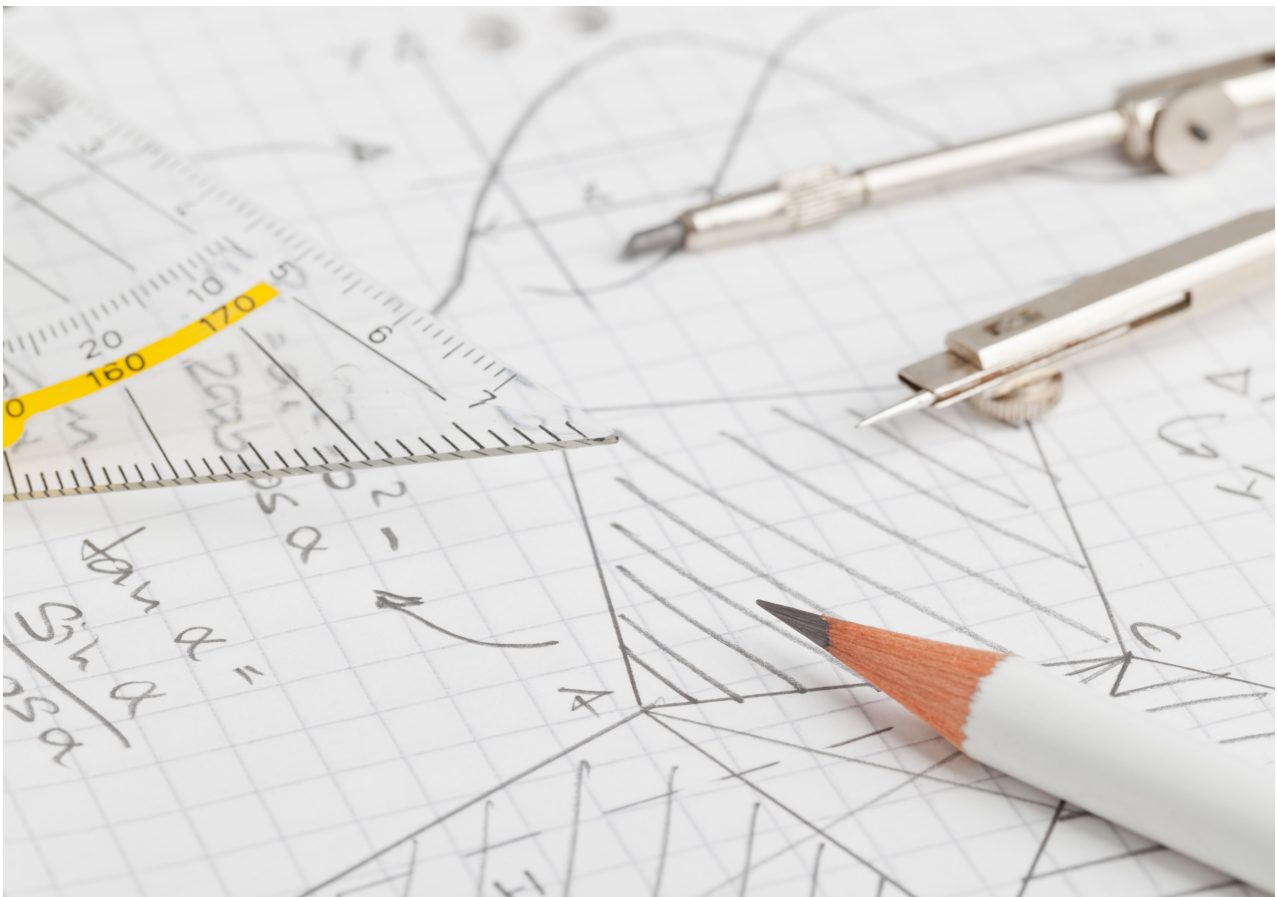


# Supporting your child with Secondary Mathematics

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## Mathematics Education during lockdown

*There are many challenges to maintaining your high school child's engagement with mathematics learning during the lockdown. It is essential to maintain a positive attitude to schoolwork and in particular mathematics. This fact sheet will provide some information and strategies to assist in supporting you and your high school child.*

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## Mathematics in years 7 to 10 (Stages 4 and 5)

In years 7 and 8, (stage 4), there is only one mathematics course and all students study the same material. Schools decide the depth at which the material is covered for particular classes and students. Some schools grade or stream the classes where students are allocated to particular classes based on ability or previous performance. Other schools have mixed ability classes where students are allocated to any class. It is different in years 9 and 10, (stage 5), where the course has three different pathways labelled 5.1, 5.2, and 5.3 with 5.1 being the easiest and 5.3 the most difficult. Your stage 5 student may be in any of the three pathways so be aware that not all stage 5 students study exactly the same material so comparisons with the work given to students outside of their class may not be valid.

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## Mathematics during lockdown

At the moment most schools are cutting down the amount of new content introduced to students to reduce the amount of work done at home while still trying to complete most of the required content to be ready for the next school year. This is particularly true for year 10 where the focus is on the topics needed for year 11 rather than all of the topics for year 10.

Some of the mathematics strategies used in many schools today are taught differently to the way in which many parents may have experienced. To find out exactly the mathematics that should be taught to your child visit the NESA website and view the mathematics K-10 Syllabus: <https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/mathematics/mathematics-k-10>.

The mathematics syllabus has four main areas of which three are content-based and one is process-based (called working mathematically). The three content areas are Number and Algebra, Measurement and Geometry and Statistics and Probability and usually one area is studied for about three weeks before moving to another area. At times all the areas are linked through a problem solving activity.

The syllabus makes this statement about Mathematics:

*Students develop their mathematical knowledge, skills and understanding through a range of learning experiences across:*

- **Number and Algebra**, e.g., financial mathematics, ratios and rates, and equations
- **Measurement and Geometry**, e.g., angle relationships, trigonometry, and Pythagoras' theorem
- **Statistics and Probability**, e.g., data collection and representation and a deeper understanding of statistics and probability.
- *They develop their problem-solving skills, and mathematical reasoning and communication.*

### Helping your child with set schoolwork

Many schools are finding the move to the online environment quite challenging as have many of the students. Schools are providing material to students and most students are receiving the same material. This means that in some cases there may be too much, or too little material given to a particular student, and this may include your child. It is important to be aware of that aspect and to maintain a positive attitude to the situation and to the study of mathematics. A positive attitude is important even if your personal view of high school mathematics may not have been positive. Try to make the learning enjoyable for both of you.

The secondary environment is still presenting new content to the students and that may be causing an issue for your child. It is important to have a positive focus and say that while you do not understand now you will eventually. Some schools provide zoom time for students to ask questions so encourage your child to take advantage of these opportunities. If they are reluctant to ask questions then encourage them as if they do not understand then probably their classmates don't understand either and someone needs to ask.

### Resources for parents and students

- [Peter Blake Maths](#) has videos on many mathematics content areas from year 7 to year 12.
- [Miss Draisey's Junior Secondary Maths Tutorials](#) are a series of videos on some aspects of the 7-10 curriculum.
- [Maths online](#) is a commercial site but has a 10-week free trial which may be of assistance.
- The [NRich](#) site has many interesting problem-solving activities
- For the 'unsolvable' questions the [Wolframalpha website](#) will calculate the answer to any mathematical question.

### Mathematical games

- [NIM](#) is a logic game that has been played since ancient times. While straight forward in playing rules winning is not so easy until you see the strategy.
- [KenKen](#) is a game that reinforces the four operations with whole numbers within a game of logic.

### Conclusion

The best way to support your child is to provide a positive attitude and either contact the teacher for assistance or use one of the sites that have been suggested. Have a routine with mathematics done in the morning and if your child is having difficulty then note the question and move on and seek assistance from the teacher, textbook or one of the resources mentioned. There are other sites that may help, but care needs to be taken particularly if they are not Australian sites as the terminology and measurement units in other countries may not align with the Australian syllabus. As you assist your child with their mathematical journey you may enjoy some of the sights along the way.

*Mathematics is not about numbers, equations, computations, or algorithms: it is about understanding.*— William Paul Thurston, American mathematician