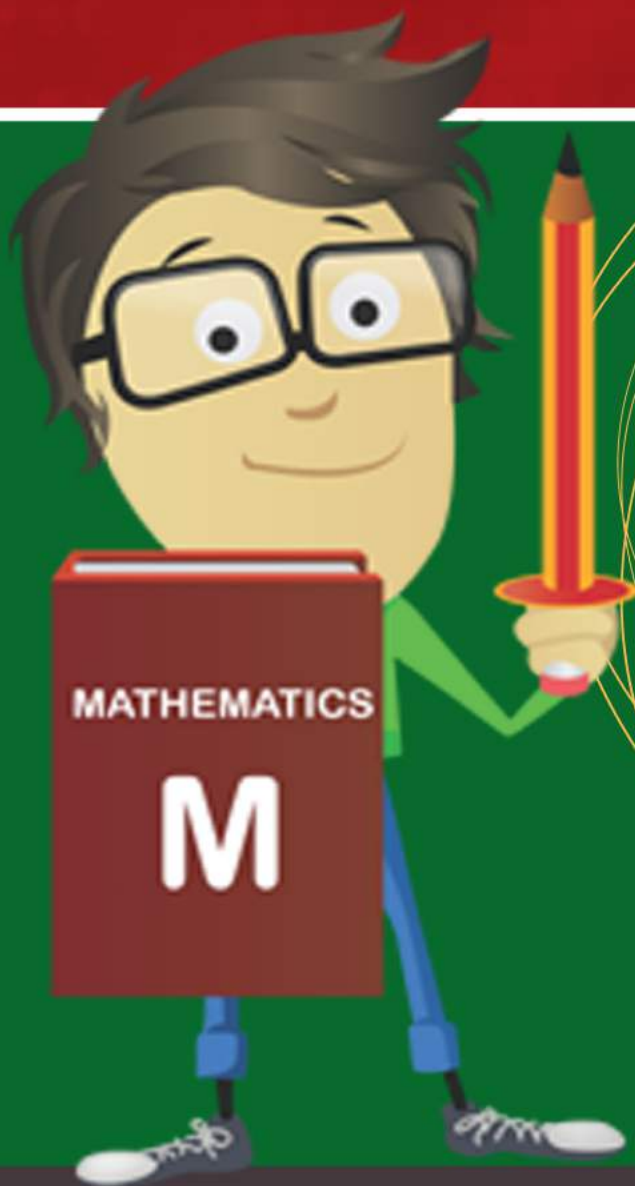




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Year 3 Maths



Year 3 Maths

What's New in Year 3 Maths

New concepts introduced in **Year 3 maths** include extending numerical operations such as counting, addition and subtraction of numbers up to four digits. This builds on student's knowledge from the previous year. Other introductions include learning about squares and multiples of numbers, working with fractions beyond halves and quarters and working with numbers up to 2 decimal points.

Overall, students expand their knowledge of whole numbers, fractions and decimals and improve on previous capabilities by using these numbers with addition, subtraction, multiplication and division.

Main Content of Year 3 Maths

The core contents of year 3 maths include counting whole numbers by tens and hundreds and learning to add and subtract numbers up to four digits e.g. $23 + 321$, $4950 - 695$ etc.

For multiplication and subtraction, year 3 maths skills include finding multiples and squares of numbers e.g. the square of 2 is 4 and dealing with remainders in simple division problems. Maths in year 3 also involves learning to write and work with fractions whose denominators are 2, 4, 5, 8, 10 and 100. Year 3 is also when students will learn about equivalence between fractions as well as write and compare decimals up to 2 decimal places.

Common Challenges for Students in Year 3 Maths

Year 3 Maths is a considerable jump from previous years for most students. It is in year 3, that students will be required to state in words the number patterns and numerical operations they perform. This may seem straightforward but most students find it difficult to combine thinking in numbers and recording in words. In addition, certain numerical operations, most notably those involving combinations of four digit numbers and lesser digits may prove difficult for some students.

Main Outcomes for Year 3 Maths

At the end of year 3, students should be able to count, order, read and record numbers up to four digits. They should be able to add, subtract, multiply and divide numbers with these digits. Mastering addition and subtraction of numbers in 2 decimal places should be achieved here too.

What they say about our tutoring...

"In response to your earlier email, I am absolutely delighted with Nick. Tabi trusts that Nick can help her and is beginning to deal with the sense of panic she builds up when confronted with problems she is not sure how to solve or techniques taught in class that she did not understand. I can see Tabi beginning to feel more confident and she certainly feels supported by Nick."

Year 3 Maths

Important Concepts for Your Child to Understand in Year 3 Maths

Ability to add, subtract, multiply and divide whole numbers up to 4 digits as well as add and subtract decimals up to 2 decimal places are the most important things for your child to know in year 3 maths.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 3 Maths

When you get a tutor, he/she should and will focus on giving your child more time practicing mathematical operations (addition, subtraction, multiplication and division) in more digits and decimal places. More study time and more examples are very important strategies for giving your child the needed edge. It is also here that your child should gain the other important skill needed in this year: ability to record these maths operations.

Main Challenges Involved in Tutoring a Year 3 Maths Student

It is important to know that year 3 is still pretty much introductory to young maths students. Therefore, the chief challenge will be to match the pace of learning of the student and develop the beginning of important analytical skills to handle more difficult maths problems.

Another common challenge around this grade level is teaching students to seek understanding rather than rote learning content. It is important to start focusing on this at an early age otherwise students tend to develop a "rule dependency" approach to mathematics.

Tips on How to Help Your Child with Year 3 Maths

Helping your child in Year 3 maths will take a fair bit of dedication and patience. Students here are known to take a while before embracing and tackling more intricate problems than they are used to. Therefore, prepare to give, or have someone qualified give, a few hours a week to guiding your child through the year.

Year 4 Maths

What's New in Year 4 Maths

Here in Year 4, students are introduced to calculations involving money with whole numbers, fractions and decimals. They will also be introduced to using formal written methods for performing addition and subtraction. Informal written methods will be used for doing multiplication and division involving combinations of two-digit and one-digit numbers.

Year 4 maths is also when percentages will be introduced as well as conversions between percentages, fractions and decimals. Other topics also include:

- constructing simple number sentences;
- introduction to conducting surveys,
- constructing tables and graphs,
- interpreting simple statistical results,
- measurements and geometrical shapes

Main Content of Year 4 Maths

The content of year 4 maths expands on performing addition, subtraction, multiplication and division. These operations are performed on whole numbers, fractions, decimals and percentages of different digits, denominators and decimal places. Calculations related to money are especially focused on.

Furthermore, simple number sentences will be given by students after solving for answers. In data usage, construction and types of tables, graphs and ways of interpreting data will be taught. Measurement for Year 4 maths will encompass estimation, taking actual measurements and using measurement units for length, area, volume, time, mass and positions. Students will also study two- and three-dimensional shapes.

Common Challenges for Students in Year 4 Maths

Thinking in different dimensions does present difficulty for students in this year, especially in geometry. Calculations involving money may be challenging for some but most students find working with data especially tough.

Main Outcomes for Year 4 Maths


At the end of Year 4 maths, students should be able to work with whole numbers, fractions, decimals and percentages of varying digits and decimal places. They should also be able to construct and complete simple number problem sentences after finding solutions to various questions. Concepts around simple data gathering and analyses should be grasped by the end of this year as well as interpretation and graphical presentation of results from their data analyses. Students should also be able to estimate, take measurements, make comparisons and record lengths, areas, volumes, masses and time. Representation and description of 2- and 3-dimensional shapes should be learnt by now too.



Year 4 Maths

What they say about our tutoring...

"Harry got 83% in his yearly maths test. Last year he got 33% so Michael is doing a really good job."



Year 4 Maths

Important Concepts for Your Child to Understand in Year 4 Maths

Year 4 is when you should desire that your child understands working with numbers of all kinds. Being able to comfortably work with all the arithmetic operations regardless of how numbers are presented is a crucial skill.

Students also need to become articulate when constructing simple number sentences. As maths becomes more complicated, the ability to verbally express understanding becomes more important. A firm grasp of data analyses and geometrical shapes is also advised at this stage.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 4 Maths

When getting a tutor, encourage that your child should be given not only more problems to solve but also taught to think and solve maths problems independently.

Some of the concepts introduced in year 4 are a lot more abstract and challenging to understand. It is essential the tutor helps your child develop their sense of logic and ability to think independently. At this level of mathematics rote learning will not be effective and continued reliance on memorisation rather than understanding may create a longer term problem.

Main Challenges Involved in Tutoring a Year 4 Maths Student

Getting a Year 4 maths student to regard objects in 2- or 3-dimensional shapes can be quite a challenge. Working with the different units of measurement can also prove hard to follow for most students.

Tips on How to Help Your Child with Year 4 Maths

Help your child learn faster by presenting him/her with real world problems especially those involving money, measurements and shapes. Engaging your child to solve problems involving various units of measurement can be especially helpful.

Year 5 Maths



Year 5 Maths

What's New in Year 5 Maths

Year 5 maths is the first time students will learn of Roman numerals and differentiate them from the Hindu-Arabic system of counting. Here, they will also be taught about prime numbers and composite numbers. Improper fractions and mixed numerals are new topics to learn as well as introductory probability. There will also be introductions to special shapes and triangle types as well as basic map scales.

Main Content of Year 5 Maths

Year 5 maths will teach addition, subtraction, multiplication and division of numbers of all types and all sizes. In fractions, comparisons and simple equivalence will be expounded upon. Prime and composite numbers, mixed numerals and improper fractions are year 5 maths' main numerical tasks. Probability will also be introduced and in algebra, geometric patterns will be taught. Other topics include:

- using scales in graphical data presentation and interpreting sector graphs e.g. pie charts,
- converting between different units of measurements,
- understanding square and cubic parameters with respect to areas and volumes,
- in geometry, 3-dimensional objects will be highlighted with prisms,
- 2-dimensional shapes will focus on triangles and circles.

Common Challenges for Students in Year 5 Maths

The concept of probability is a common challenge in year 5 maths as well as prime numbers and improper fractions. While working with numbers of different sizes is an extension of maths studies in previous years, it can still be daunting for students who are yet to condition to the abstract thinking that maths requires. Students who are not comfortable with performing basic arithmetic operations on numbers of all sizes will start to struggle.

Main Outcomes for Year 5 Maths

At the end of year 5 maths, students must be able to work with numbers of all types and sizes; especially fractions, simple decimals and percentages. They must also be able to record and describe geometric and number patterns in words and with tables. They must likewise have learnt how to choose the right units of measurements depending on the context of the question. Drawing and identifying 3-dimensional objects such as prisms and pyramids and 2-dimensional shapes such as triangles are required by the end of this year.

What they say about our tutoring...

"I would like to take this opportunity to thank you and your team for giving the guidance and support, that we were given for our son Ryan. The tutoring that was provided by Victor was of the highest standard and this showed in Rhys' end of year maths results. Ryan was absolutely thrilled with his results, what a difference a few months makes."

Year 5 Maths

Important Concepts for Your Child to Understand in Year 5 Maths

It is important that your child can work with any number at the end of year 5. This cannot be stressed enough. Understanding what a number represents, regardless of how it is presented and then being able to work with that number is crucial. This is truly foundational content and must be comprehended in its entirety.

Your child should also be able to identify different shapes and objects as well as take measurements in the right units.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 5 Maths

The content to focus on in year 5 maths is working with numbers of all types. This is the bedrock of every other aspects of maths. Everything from algebra to geometry will be helped by this. To this end, the tutor you hire should rigorously ensure that your child is comfortable with numbers.

Main Challenges Involved in Tutoring a Year 5 Maths Student

One challenge in tutoring a year 5 maths student is in providing justification for the methods you choose in your examples when teaching. This is especially so with measurements. With the different units of measurements available, it can be exhausting having to explain over and over again which and why one is the most appropriate and why. Students really need to develop their own sense of logic and reason. Explaining probability can also be difficult.

More generally, at this stage mathematics becomes sufficiently complex that there is often more than one way to solve a problem. This can be confusing for students who are used to having only one possible method that can be memorized and doesn't require much abstract reasoning.

Tips on How to Help Your Child with Year 5 Maths

The best help to give a year 5 maths student is to exhaustively go through the difficult parts. This will require long hours and if you cannot do this yourself, you should hire a tutor. Remember, year 6 is the culmination of Primary school and then, the maths curriculum will assume past years' works are well understood.

Year 6 Maths

What's New in Year 6 Maths

Negative numbers. Multiplications up to 2-digit operators and divisions with 1-digit operators. Working with decimals to 3 decimal places and multiplications of fractions with whole numbers. Reading graphs with varying scales and determination of averages of sets of numbers. Conversions between different units of the same measurements as well as taking measurements up to 3 decimal places. Comparison of different Australian time zones while taking daylight savings into consideration. Construction of 3-dimensional shapes, classifying and measuring angles.

Main Content of Year 6 Maths

Reading, writing, recording and using numbers of all sizes are central skills in the year 6 maths syllabus. The concept of negative numbers and their relation to zero will also be taught. Addition, subtraction, multiplication and division involving whole numbers, special numbers, fractions, decimals and percentages are also core maths skills. These skills will be learnt and focussed on applications involving everyday money calculations. These four operations will also need to be used in the construction and solution of number sentences.

Other core topics include calculating the means (averages) of number sets; working with squares, triangles and rectangles as well as calculating perimeters, areas and volumes in 3-decimal places. Other topics in measurement include construction of timelines and recording masses.

In geometry, 3-dimensional models will be constructed; shapes and maps will be reduced and enlarged; symmetry in objects will be taught; and angles will be measured in degrees using the protractor.

Common Challenges for Students in Year 6 Maths

The commonest challenge for students in this year is in taking maths at this level as a whole, interwoven subject. More than ever, year 6 maths topics overlap and knowledge from one area will help in others. In coming up with solutions to problems, students may find it hard to apply what was learnt somewhere else to problems in different areas. For example, dealing with numbers up to 3 decimal places is a common thread for year 6 maths. It shows up in algebra as well as in geometry and statistics.

Main Outcomes for Year 6 Maths

At the end of this year, students should not only be able to work with numbers of all types and sizes, but must also be able to convert one form to another while adding, subtracting, multiplying and dividing combinations of these numbers. These abilities should also apply to number sentences as well as geometric and numeric patterns.

In data usage, students should be capable of interpreting and presenting their data in tables and graphs of varying scales.



Year 6 Maths

What they say about our tutoring...

"I would like to thank Victor for all the support and that making Ryan understand how easy it is to be able to achieve good results. Victor was always very friendly and reliable this helped Ryan settle in quickly. Look forward to continuing in the new year."

Year 6 Maths

In measurement, they must be able to select the appropriate measuring device and measurement unit for specific measurements as well as show that they can convert between different units of measurement.

In geometry, students must be able to draw and classify common shapes and objects as well as measure angles accurately.

Important Concepts for Your Child to Understand in Year 6 Maths

It is difficult to pinpoint the most important topics to ensure your child understands in year 6 given that this is the final year of Primary School. At this point assessments will test knowledge in every area. However, a good foundation with number operations will go a long way in helping your child excel in other areas of this year's maths.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 6 Maths

Should you get a tutor, the best learning methods to encourage are ones where teaching and problem-solving involves an interdisciplinary approach. For year 6, get a tutor who provides a holistic approach to give your child the important ability of dipping into different aspects of maths to solve each problem.

Main Challenges Involved in Tutoring a Year 6 Maths Student

The sheer volume of the grounds that need be covered is the main challenge in tutoring a year 6 maths student. It is easy for the student to lose focus and interest if he/she encounters difficulties in key areas or is overwhelmed.

Students at this age are rarely comfortable with the process of sitting down and figuring out a maths problem on their own if they feel overwhelmed or beaten by it. Yet, this is an important skill and attitude that needs to be instilled. Once your child enters high school, the learning environment will change and demand a stronger and more independent sense of commitment.

Tips on How to Help Your Child with Year 6 Maths

Encourage active participation from your child this year and let him/her have more than ample study time to prepare for final assessments. Helping your child with a tutor is always a possible solution. Take care to ask your child to explain what he/she has learnt and go over the steps taken to arrive at solutions.

Year 7 Maths



Year 7 Maths

What's New in Year 7 Maths

Grouping of positive whole numbers is the newest use of previous years' numeric skills. Likewise, square roots and cube roots will be introduced by pairing them with squares and cubes of positive integers.

Algebraic techniques using letters to substitute for words is another fresh topic introduced in year 7 maths as well as the use of algebraic symbol systems to solve algebraic expressions.

An introduction to coordinate geometry will use linear expressions to explain number plane and ordered pairs. Year 7 maths will introduce statistics with sampling methods and census. In space geometry, the Pythagoras' theorem will be introduced and properties of solids will be taught.

Main Content of Year 7 Maths

The algebra core content of year 7 maths will use index notations for positive integer indices as well as provide a test for integers. Apart from integers, the four numeric operations (addition, subtraction, multiplication and division) will be performed with decimals, fractions and mixed numerals. Algebraic techniques will include expansion, simplification and factorization of algebraic expressions.

With data analyses, year 7 maths will deal mostly with data collection, collation and organization.

Students will also learn to determine the limits of accuracy of measurements, find areas of simple figures and surface areas of solid shapes. Classification and properties of angles, triangles and quadrilaterals will also be taught.

Common Challenges for Students in Year 7 Maths

New conventions for algebraic expressions may pose a challenge to a year 7 maths student. Other possible areas of difficulty is with solid shapes, the application of Pythagoras' theorem and special geometrical properties of specific solids.

Main Outcomes for Year 7 Maths

Year 7 maths students should, at the end of the year, know the properties of positive integers and be able to calculate using not only fractions, decimals and percentages but also ratios and rates. The ability to use and work with algebraic symbol systems should also be learnt; especially expanding, factorizing and simplifying algebraic expressions.

Data collection tools and analyses methods should also be mastered at the end of year. Ability with the Pythagoras' theorem should also be demonstrated as well as the construction and classification of solid shapes and geometric figures.

What they say about our tutoring...

"Thank you for the follow up. Sinan is working out fine. He has connected with Matthew well. Matthew has indicated that Sinan is explaining some of the mathematical concepts better than what his teacher is explaining, which is a good start. Hopefully this will translate into a better maths grade."



Year 7 Maths

Important Concepts for Your Child to Understand in Year 7 Maths

Understanding algebraic expressions is important to year 7 maths. Working with solid geometric shapes is also essential as well as gaining a firm grasp of the Pythagoras' theorem.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 7 Maths

One good learning strategy that can help in year 7 is constant demonstration of methods. For algebraic expressions, the best way to learn is to solve a lot of problems. Using real models to teach solid geometry is a quick way of learning everything about surface areas, perimeters and angles.

Main Challenges Involved in Tutoring a Year 7 Maths Student

Abstract thinking is especially central to learning year 7 maths. Dealing with algebraic expressions and geometry requires the ability to form mental pictures of shapes and a rigorous application of the conventions of algebra.

Tips on How to Help Your Child with Year 7 Maths

Devote quite some time to ensuring that your child gains a solid foundation in year 7 maths, especially algebra. This will help through the rest of high school. You could hire a tutor who can give the needed attention and challenge for your child to develop the mental capacity to learn quickly. It is essential that your child moves away from rote learning and rule dependency and knows how to seek genuine understanding. As maths becomes more technical, the temptation to rely on memorising rules becomes stronger but success cannot be achieved this way in mathematics.

Year 8 Maths



Year 8 Maths

What's New in Year 8 Maths

Prime factors are introduced in year 8 maths. For probability, complementary events and simple probability problems are taught. Equivalence and substitution in solving algebraic equations are new topics this year as well as solving linear equations and algebra word problems.

Frequency tables, histograms and polygons are introduced as means of data representation and to analyse data, median, mode and range will be taught alongside mean. For circles, circumferences will be new introductions and prisms will be studied for volume. Measurement of time this year will include using international time zones. In geometry, Euler's relationship and isometric drawings will be new. Also, parallel and perpendicular lines alongside the angles they make will be studied.

Main Content of Year 8 Maths

Year 8 is when students will learn about prime factors and use ratios and rates to solve problems. It is also in this year that the maths curriculum will include using and solving simple algebraic equations especially by factorisation and substitution. Linear equations will also be introduced as well as graphs to represent linear relationships. Graphs will also feature in data analyses where the proper use of them, and the types of variables that can be represented, will be learnt. Circumferences and areas of circles as well as volumes of prisms will lead on to conversion between metric units. Congruent figures, isometric drawings and solving for angles will be the core of space geometry for this year.

Common Challenges for Students in Year 8 Maths

Students in year 8 maths may find the more advanced sections of space geometry difficult. Euler's relationship and isometric drawings are common areas of difficulty. Solving algebraic expressions and algebra word problems may also pose a challenge to students in this year.

Main Outcomes for Year 8 Maths

At the end of this year, students should be able to work with integers, prime factors, rates and ratios as well as work with simple probability events. Students should likewise be able to solve simple inequalities and linear equations with algebraic techniques. Year 8 is when linear relationships on graphs and number plane should be well understood. Skills in geometry should include the ability to calculate the surface areas and volumes of solid shapes e.g. cylinders and prisms. Students at this time should also be able to identify the conditions for congruency in 2-dimensional figures and identify angles formed by lines intersecting other parallel lines.

What they say about our tutoring...

"I was very happy with your service and team. I was fortunate to have met two tutors and both were reliable and most importantly helpful. I came to you as I was attracted to your approach and no upfront fees or contracts....you pay for what you receive at very competitive rates. I was particularly impressed with your assessments and reports."



Year 8 Maths

Important Concepts for Your Child to Understand in Year 8 Maths

Year 8 is when you want your child to have a good grasp of linear equations, algebraic equations and working with solid shape geometry. The algebra should be particularly focussed on; although it is relatively simple at this stage, the use of algebra will eventually be required to solve just about any problem. Algebra is to mathematics what grammar is to language.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 8 Maths

The focus in year 8 maths should be understanding the different methods of solving linear and algebraic equations. The best way is to have the tutor provide a lot of exercise for your child. Learning solid shape geometry may require some visual aid which a capable tutor can easily provide.

Main Challenges Involved in Tutoring a Year 8 Maths Student

Thinking in spatial geometry is one major challenge in year 8, especially in the face of the other major challenge: algebraic and linear equations which demand learning to think of mathematical expressions in letters and not only numbers.

Tips on How to Help Your Child with Year 8 Maths

Give the child ample time and opportunity to solve problems in his/her area of difficulty and encourage that your child "explores" the mathematics. There will be an increasing number of ways to go about solving problems in math and exploring the possibilities really develops problem solving skills. Space geometry is best learned with models of those figures. You should consider getting a capable tutor who can provide these.

Year 9 Maths



Year 9 Maths

What's New in Year 9 Maths

Zero and negative number indices will be taught this year. Students will also learn to express numbers in negative and positive powers of 10. Consumer arithmetic will be introduced by calculations involving earning, spending and simple interest. Also introduced this year is application of index laws to simplifying algebraic expressions. Introduction to coordinate geometry involving determination of line gradients and graphs of linear and non-linear equations. In statistics, cumulative frequency and its uses will be introduced. Other new topics in year 9 maths include studying rhombuses, kites and trapeziums as well as measuring composite figures. Trigonometry topics will include finding angles of elevation and depression.

Main Content of Year 9 Maths

The core contents of year 9 maths are:

- Zero index, negative integral indices and the use of index notations for square roots and cube roots,
- The use of scientific notations in expressing large numbers as powers of 10,
- Consumer arithmetic for simple earning, spending and interest calculations with the use of calculators and tables of values,
- Theoretical probability and application of relative frequencies,
- Coordinate geometry involving linear and non-linear relationships,
- Construction and use of cumulative frequency tables and polygons,
- Use of formulae to calculate areas and perimeters of single shapes like rhombuses, trapeziums and composite ones such as quadrants,
- Solving right-angled triangles.

Common Challenges for Students in Year 9 Maths

Year 3 Maths is a considerable jump from previous years for most students. It is in year 3, that students will be required to state in words the number patterns and numerical operations they perform. This may seem straightforward but most students find it difficult to combine thinking in numbers and recording in words. In addition, certain numerical operations, most notably those involving combinations of four digit numbers and lesser digits may prove difficult for some students.

Main Outcomes for Year 9 Maths

A common challenge this year is the notion of negative numbers. Together with expressing large numbers in powers of 10, some students may initially find it hard to grasp the idea of numbers on the other side of zero or numbers so inordinately large or small that they need scientific notations to record. Another point of difficulty is composite trigonometry.

What they say about our tutoring...

"The communication is outstanding between client and company as well as tutor and client. I would highly recommend your service. Gabie got to where she needed to and at this stage is doing very well. If she will require any further assistance you will be our first call. Many thanks for everything so far."



Year 9 Maths

Important Concepts for Your Child to Understand in Year 9 Maths

It is important that your child have a good foundation of consumer arithmetic at the end of year 9 maths. Understanding index laws is also important seeing at it is useful for algebraic and arithmetic expressions. Frequency tables are another important concept to ensure your child is familiar with, and of course trigonometry.

The importance of algebra should also be stressed here. Although algebra is not a new topic anymore, its use will be required in a variety of other topics such as geometry and trigonometry. Without knowing how to solve basic equations, for example, your child won't fare too well in a trigonometry test. This will be a continuing pattern and as such it is absolutely crucial that your child is able to cross-contextualise their knowledge of numbers and algebra.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 9 Maths

When getting a tutor this year, look out for one who can provide your child not only with ample time and practice questions but also one who can use everyday experiences to explain topics, especially consumer arithmetic and statistics. As maths becomes more complex and abstract, relating to the real world can be challenging but will serve to enhance comprehension and boost interest in the subject.

Main Challenges Involved in Tutoring a Year 9 Maths Student

Year 9 maths presents a considerable shift in the way students perceive numbers. Grasping negative numbers and expressing large and small numbers in scientific notations can pose a big challenge to students this year.

Tips on How to Help Your Child with Year 9 Maths

Providing everyday problems to help your child learn the concepts in consumer arithmetic, statistics and trigonometry will help a lot. Getting a capable tutor is another way of ensuring your child understand every topic of Year 9 maths.

Year 10 Maths



Year 10 Maths

What's New in Year 10 Maths

Expressing recurring decimals as fractions and rounding numbers to specified numbers of significant figures. Year 10 maths will also introduce compound interest, depreciation and discounts. Algebraic expressions this year will involve fractions and negative indices. Similarly, quadratic equations, simultaneous equations and linear inequalities will be new. In coordinate geometry, simple parabolas and hyperbolas will be taught while in statistics, students can expect to learn box-and-whisker plots, find standard deviations and use terms such as 'skew' and 'symmetry'. This year's trigonometry problems will include three-figure bearings; congruent triangles will be studied extensively and the relationship between internal and external angles in polygons will be examined.

Main Content of Year 10 Maths

Year 10 maths introduces recurring decimals and significant figures. Compound interest calculations will also be handled as well as depreciations and successive discounts. The core content of this year's algebra will include solving algebraic expressions involving fractions and negative indices, solving linear and quadratic equations as well as linear equalities and simultaneous equations. Coordinate geometry topics will include studying intercepts and gradients of straight lines as well as working with parabolas and hyperbolas. In statistics, plots of data sets will be studied with respect to the skew and symmetry of distribution curves as well as standard deviations of those data sets. Measurement will be a study in complex composite figures and solids, examples of which are cones, spheres and cylinders. The core of trigonometry in year 10 maths will involve using cosine and sine rules as well as trigonometric ratios. Construction of proofs will be required for deductions with special triangles, quadrilaterals and related angles.

Common Challenges for Students in Year 10 Maths

A common challenge for students in this year is the use of deductive reasoning in constructing proofs for special angles in triangles and quadrilaterals. Trigonometric ratios will also be difficult for some, at least initially. The statistical plots and distribution curves to be studied this year can also be burdensome.

Main Outcomes for Year 10 Maths

Students, at the end of year 10 maths, are expected to be able to convert recurring decimals to fractions and round up decimals to specified significant figures. They are also expected to be capable of solving consumer arithmetic problems involving discounts, depreciation and compound interest. They should be familiar with algebraic expressions of all types as well as linear inequalities and linear and quadratic equations. For coordinate geometry, students should be able to draw line, parabola and hyperbola plots as well as calculate distances, gradients and midpoints.

What they say about our tutoring...

"Just got Tahli's report. She got 55/100 last report and now 73/100 with position of 2/62 in her year. I have thanked Vashika for her work with Tahli and sorry to lose her next year but thanks to Ezy maths for giving my child confidence in maths!"

Year 10 Maths

For statistics, they should be able to calculate standard deviations. Solving for perimeters, areas, surface areas and volumes of composite figures and solids should be mastered by the end of this year. In trigonometry, sine rule, cosine rule, relationships between angles and the construction of deductive proofs are some of the concepts that should be well understood.

Important Concepts for Your Child to Understand in Year 10 Maths

This year, your child should understand and be able to solve problems involving interest rates, complex algebraic expressions, linear and quadratic equations, standard deviations, composite solids and trigonometric rules as well as be able to construct trigonometric proofs.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 10 Maths

Encourage a concentration in deductive reasoning this year. Every topic from algebra to statistic and geometry will benefit from this ability to think outside mere numbers. There is, of course, no substitute for practicing more and solving more problems.

Also, continue to stress a focus on algebra, especially harder and more technical problems. Although this may not seem absolutely necessary, if your child masters the language of algebra, rather than merely getting by, it will immensely help in all other areas of math.

Main Challenges Involved in Tutoring a Year 10 Maths Student

Maintaining interest and concentration in the student is a main challenge in tutoring students in year 10 maths, especially as you delve deeper into geometry and trigonometry. The maths becomes a lot more technical and structured this year and this can often overwhelm students or serve to subdue their interest. This especially happens when students focus on memorising rules rather than comprehension which should be avoided.

Tips on How to Help Your Child with Year 10 Maths

Involve your child more; encourage active participation and independent thinking but above all, you and/or a tutor should rigorously go over the steps involved in arriving at conclusions and solutions. Ask your child to explain concepts back to you to ensure they are properly understood and not just memorised.

Year 11 Maths



Year 11 Maths

What's New in Year 11 Maths

Graph of a function. Algebraic representation of geometrical relationships. Trigonometric ratios of negative angles. Curve trigonometry including continuity and limit of a function as well as gradient of a curve as an introduction to calculus (differentiation). Differentiation from first principle, differentiation of linear and polynomial functions as well as the composite function rules. Quadratic polynomials, inequalities and the roots of quadratic equations. Parabola and the concept of locus.

Main Content of Year 11 Maths

The core content of year 11 maths starts with a review of previous years' maths curriculums; basic arithmetic and algebra topics:

- Rational numbers,
- Quadratic surds,
- Inequalities,
- Linear equations,
- Algebraic fractions,
- Quadratic and simultaneous equations.

Plane geometry will involve the re-visitation of congruent triangles and an expansion on Pythagoras' theorem including its converse.

Also in Year 11 maths, algebra and geometry topics will be intertwined when studying locus and constructing graphs of functions. Trigonometric ratios will be used to totally solve triangles.

Differentiation in calculus will be introduced with the idea of continuity and the limit of a function as they are related to curves as well as tangent and secants of curves. Methods of differentiation will then be taught including differentiating from the first principle and differentiation using rules. Apart from differentiating polynomials, quadratic polynomials will be studied on their own including graphs and roots of quadratic functions as well as quadratic inequalities.

Common Challenges for Students in Year 11 Maths

Calculus is a perennial challenge for year 11 maths students. This year, grappling with one arm of it, differentiation, will present particular difficulties for students. Polynomials will also prove tricky especially when studied within differentiation and separately in quadratic expressions.

Main Outcomes for Year 11 Maths

At the end of this year, students should be able to compute and solve all kinds of basic algebra problems. They must, likewise, be adept at solving triangles and at using the Pythagoras' theorem. Trigonometric ratios are key topics to grasp for this class too. Most importantly, a good understanding of the principles of differentiation is absolutely essential for higher calculus in the next year.

What they say about our tutoring...

"Darius is fantastic. He is extremely dedicated and well mannered. He often stays more than 1 hour to make sure Harry understands everything they have covered. Harry has become enthusiastic toward maths and he can already see improvements. Thank you so much for referring Darius, he has been a life saver!"



Year 11 Maths

Finally, students must, at the end of year 11 maths, be capable of solving quadratic polynomial equations as well as constructing graphs of quadratic functions and solving quadratic inequalities.

Important Concepts for Your Child to Understand in Year 11 Maths

More importantly than the rest, your child must understand and be able to use differentiation in year 11. Apart from that, trigonometric ratios and quadratic polynomials are core concepts to be fully understood.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 11 Maths

Should you get a tutor for your child, encourage a concentration in calculus, polynomials and trigonometric ratios. When differentiating functions, let the child start with differentiating from the first principle before moving onto the rules; this way, they can fully understand the underlying transformation of calculus rather than relying on rote and formulae.

Main Challenges Involved in Tutoring a Year 11 Maths Student

Calculus, more often than not, looms large in the mind of a year 11 maths student. The fear of calculus in many ways slow some students from learning the topic. Since year 11 is close to the end of high school, preparation for final assessments may not allow a lot of time to fully tackle the core topics this year. Again, the importance of algebra must be stressed. If your child is not completely comfortable with reasonably complex algebraic manipulations it will make mastering topics like calculus nearly impossible.

Tips on How to Help Your Child with Year 11 Maths

Help your child prepare for final assessment as much as you can. This is a good year to get a tutor for him/her in maths. Quite a number of very important new topics are introduced in year 11 maths and it is important that your child master them irrespective of other preparations that need be made for the next year.

You should also stress regular revision and general good study habits. The sheer volume of content this year makes success challenging. Success becomes more about effective study habits and exam preparation techniques rather than just "getting" the math. Many students are caught off-guard at exam time because of the increased pace of learning and increasingly difficult content – it is truly hard to manage.

Year 12 Maths



Year 12 Maths

What's New in Year 12 Maths

Year 12 is heavy in new content which includes: More calculus, especially integration, The use of tree diagrams in probability studies, Sequence and series (arithmetic and geometric), Applications of differentiation (calculus) including the second derivative, Logarithmic (including natural logarithm) and exponential functions and the application of calculus to them, Trigonometric functions and the application of trigonometric ratios and differentiation to them, Applications of calculus in the real world.

Main Content of Year 12 Maths

The core content of year 12 maths revolves around calculus. Apart from this, there is the application of the principles of plane geometry to theoretical problems as well as the use of tree diagrams to expound on the laws of probability. Very important too are arithmetic and geometric series as well as their applications in consumer mathematics (compound interest, hire purchase and repayment plans).

From then, the bulk of year 12 maths lies with calculus. Starting with applications of differentiation learnt the previous year and introduction to the second derivative. This will include primitive functions, concepts such as maxima, minima, tangents and normals to curves. Thereafter, integration is introduced. This year, students will learn about the Simpson's rule, the Trapezoidal rule and the application of integration to areas and volumes of solids. Real world application of calculus is also important to this year especially in phenomena involving growth and decay, velocity and acceleration where calculus as a measure of rate of change will be central. Also tied to calculus will be studies in trigonometric, logarithmic and exponential functions and their applications.

Common Challenges for Students in Year 12 Maths

Calculus. Calculus. Calculus. Year 12 is the year of calculus in maths. Therefore, it can be difficult for students who haven't grasped the fundamentals to move on to the applications. This, in the final year of High School when preparation for final assessment is in full gear, can be daunting to students.

To be more particular, students often find it hard to unify their knowledge, especially around calculus. There are so many rules and concepts which are inter-related. It can be challenging to understand how exactly the rules and concepts are connected and how to apply them in a specific context. The only way to really deal with this is to focus on true understanding of the material, without which knowledge cannot be cross contextualised.

Main Outcomes for Year 12 Maths

At the end of this year, students must show a complete understanding of the principles and use of calculus. They must be able to integrate and differentiate functions as well as apply these to higher concepts and real



Year 12 Maths

world problems. Apart from this, students are expected to have mastered every area in algebra, probability and high school geometry. They must also be able to solve trigonometric, logarithmic and exponential functions and show the sound reasoning capability of borrowing from different areas of year 12 maths to solving problems where applications of principles are required.

Important Concepts for Your Child to Understand in Year 12 Maths

Calculus is the most important concept your child must understand in year 12 maths. It will help all other areas.

Study Habits & Content to Focus On, if Hiring a Tutor in Year 12 Maths

Studying for final assessments in year 12 will prove daunting. When getting a tutor, be ready to allow your child extra hours for study. This is absolutely necessary. It is even advisable to get a tutor early so your child can learn ahead of the class. This will not only afford him/her more time for other preparations but also give the child an all-important confidence to approach the maths in year 12 without fear and undue anxiety.

Main Challenges Involved in Tutoring a Year 12 Maths Student

The sheer volume of work to cover may overwhelm a year 12 maths student and make him/her difficult to tutor. Making sure that your child covers all the necessary content with spare time for revision can be challenging. It requires effective planning and time management which is impossible without the full co-operation of a student and commitment to completing all set homework.

Tips on How to Help Your Child with Year 12 Maths

You and/or the tutor should quickly pinpoint your child's areas of weakness in year 12 maths and even the previous years' maths. This will make it easy to fill those gaps and build on a better foundation. Furthermore, give your child more time for study and lots of encouragement to see them through the last year of High School.

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