

Year 12 Induction

Maths Summer Assignment

We really need to see what your GCSE Maths skills are like in certain areas. These topics are the ones that we will be covering during the Autumn Term. We'd like to get an idea of your strengths and weaknesses so that we can plan and deliver our lessons accordingly.

Please could you work through the **interactive resources** link for each section and complete the **Exercise** (this comes after the Practice Questions) for each of the following topics using the website:

<http://www.cimt.org.uk/projects/mepres/step-up/>

When you check your answers please record your scores and your overall percentage on this sheet and hand it in to your teacher in September. Don't worry if you can't do it or you get it all wrong – this will just help us to know which topics we need to spend more time on in lessons.

If you haven't covered these topics or you need to revise them you can look at the 'Other useful material' links which contain lots of Examples and text book questions that you can use.

NAME _____

SECTION 1: Basic Algebra (non-calculator)

Question	Topic	Score	Out of 24
1.	Simplifying by collecting like terms		4
2.	General laws of indices		4
3.	Expanding brackets		4
4.	Factorising expressions		4
5.	Laws of indices (positive & negative powers)		4
6.	Laws of indices for fractions		4
		Overall score	%

SECTION 2: Quadratic Functions

Question	Topic	Score	Out of 20
1.	Plotting quadrating functions		3
2.	Expanding brackets		3
3.	Factorising quadratic expressions		4
4.	Solve quadratic equations by factorising		3
5.	Solve equations using quadratic formula		3
6.	Mixed Questions		4
		Overall score	%

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SECTION 3: Equations and Inequalities

Question	Topic	Score	Out of 20
1.	Simultaneous Equations (Elimination)		3
2.	Simultaneous Equations (Substitution)		3
3.	Representing inequalities on a number line		4
4.	Identifying inequalities from a number line		4
5.	Solving linear inequalities		3
6.	Finding values that satisfy inequalities		3
		Overall score	%

SECTION 4: Sine Rule and Cosine Rule

Question	Topic	Score	Out of 24
a)	Mixed Sine Rule and Cosine Rule Questions finding angles and sides		3
b)			3
c)			3
d)			3
e)			3
f)			3
g)			3
h)			3
		Overall score	%

Thank you for completing the interactive exercises. Please hand this sheet in to your teacher during your first lesson in September. We can't wait to start teaching you Maths!

For the new Linear A levels the requirements for the type of calculator needed has changed, they must now have the following capabilities:

- an iterative function
- the ability to compute summary statistics and access probabilities from standard statistical distributions
- the ability to perform calculations with matrices up to at least order 3×3 (further mathematics only)

The minimum standard for this is an advanced scientific calculator, such as the Casio 991EX ClassWiz or the TI-30X Pro; however, graphical calculators have this facility along with the additional advantage of being able to plot the graphs of functions. It is **not** required that you have one of these types of calculators before you start the course, your teacher will advise you in September.

Wishing you a very enjoyable summer from the maths team of Mr Heighway, Mrs Wallace, Mrs Herring, Mrs Patel and Reverend Walters!!