

St Mary's CE High School

Maths in

Context

Y11 into Y12
Transition Work

Summer 2020

Name:

Deadline: First Maths lesson in September

NOTE: There are *two* tasks to complete

Task One: Academic

The following are all topics you should be confident with.

Please work through these tasks to help prepare for the test you will be sitting the second week back in September.

It would be useful to keep the notes/workings you do so we can tackle any issues in September.

Topic List	Corbett Maths Video	Studied?	Understood?
Cumulative Frequency and Boxplots	149 150 153 154		
Scatter Graphs	165 166 167 168		
Forming and Solving Equations	114 115		
Drawing Linear Graphs	186 187 192 193		
Relative Probability	248		
Listing Outcomes	253		
Increasing and Decreasing Percentages	235 238		
Calculating the nth Term of a sequence	288		

Please Note:

Along with your GCSE grade, the test will determine whether we think you are suitable for the course, and what intervention you need from September.

You do not have to do every question – you need to do enough so you understand every type of question.

We have provided the answers so that you can mark as you go, but you must ensure you have thoroughly attempted a question before looking at the answers.

Task Two: Research

The most common complaint that students have about mathematics and algebra in particular is "When am I ever going to use this?". You are going to defend the various topics that you will be studying throughout this year. You need to:

1. *Research the history of your topic, including prominent mathematicians involved with that topic*
The history of your topic can be gathered from several resources - textbooks, encyclopaedias or from sources of math history on the internet.
2. *Show how your topic is used in the "real world"*
Real world uses can be gathered from several sources. A starting place is your text where you can gather occupations that use your topic.
Create several (4-6) sample problems that would demonstrate real world use and answer them.
3. *Find ways that you might use this topic today*
Find out about the real life usage of your topic. You could write to mathematicians to find answers!
4. *Evaluate your project*
Even though there are some topics in math that you might find more difficult than others, your responsibility is to not let past impressions influence you.
You are to evaluate your report that "defends" your topic to students that ask 'When I am ever going to use this?'.

Topics

The following is a list of topics from which to choose:

- Cumulative Frequency and Boxplots
- Scatter Graphs
- Forming and Solving Equations
- Drawing Linear Graphs
- Relative Probability
- Increasing and Decreasing Percentages

You may choose something else but it must be covered in the A level specification.

Assessment

Your project will be assessed on the following criteria:

- Are all three parts of the brief in the project?
- Are the parts clear and well written?
- Is your information well supported?
- Is your information informative and persuasive?

Resources

Dictionary - <http://www.m-w.com/dictionary.htm>

The Math Forum - <http://forum.swarthmore.edu/>

Math History - <http://www.aloha.net/~bry/teaching/math.html>

History of Math - <http://www.tc.cornell.edu/Edu/MathSciGateway/math.html>

This is MegaMathematics - <http://www.c3.lanl.gov/mega-math/menu.html>

Ask Dr. Math - <http://forum.swarthmore.edu/dr.math/drmath.high.html>

Math Images - <http://archives.math.utk.edu/images.html>