# 6<sup>th</sup> Form Preparation work for **A Level Maths**

# Week 3 and 4

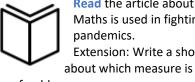
The Royal Institution of Great Britain runs a series of lectures every Christmas by someone distinguished in their field. The Title of the lecture series was Secrets and Lies and the second is called How to bend the rules.

Watch 'How to bend the rules'.



Complete the worksheets 1e and 1f on graphs. Make notes as you answer them of any rules you already know and those you research.

Watch 'How can we all win'. The



Maths is used in fighting pandemics. Extension: Write a short report

Read the article about how

preferable.

### **RI Christmas Lecture 2**

Time: 1 hour

**Read** the article on the Monty Hall problem. This is a problem considered using probability and famously used in game shows and in the film 21. The article considers why the surprising but accepted answer might not be right. Write a short report on

1e Worksheet 1f Worksheet

Time: 90 minutes

**How Can Maths Fight a Pandemic?** 

Time: 1 hour

**Complete** a Thinking Hard Task to reduce the specification for the Statistics and Mechanics content of the A Level. Make a mind map to show the different topics from page 30 to 38.

Extension: Start to add subject detail under the areas using knowledge from GCSE.

the Monty Hall problem.

Royal Institution of Great Britain runs a series of lectures every Christmas by someone distinguished in their field. Several times the lectures have

been delivered by a Mathematician and last year was one of those. These are interactive and really interesting! The Title of the lecture series was Secrets and Lies and the third is called How can we all win? It's all about Probability.

Complete the worksheets 2a on straight line graphs, parallel and perpendicular lines and Pythagoras' Theorem. Make notes as you answer them of any rules you already know and those you

research.

## **Edexcel Maths Specification**

Time: 1 hour

The Monty Hall Problem

Time: 1 hour

RI Christmas Lecture 3

Time: 1 hour

2a1 Worksheet 2a2 Worksheet 2a3 Worksheet

Time: 1 hour

Watch the video from Numberphile on 5 and pi and try the maths for vourself. Pick three more Numberphile videos to watch and post about them on the Google Classroom.



Complete the worksheets 1d on inequalities. Make notes as you answer them of any rules you already know and those you research.

**Listen** to the Podcast. Explore the connection between Maths and Music by going on a tour of the La La Lab exhibition with curator Daniel Ramos, Follow the links to

view some of the exhibits at the museum.



1d1 Worksheet 1d2 Worksheet

Time: 1 hour

A Tour Through Maths and Music

Time: 30 minutes

5 and pi

Time: 1 hour