

ADMIRAL LORD NELSON SCHOOL GCSE Mathematics Key Information 2022-2023

Topics *	Exam Length	
Paper 1	1 hr 30 mins	Calculator
Paper 2	1 hr 30 mins	Non- Calculator
Paper 3	1 hr 30 mins	Calculator

The best way to learn maths is to do maths! **Revision Advice**

GCSE OCR Mathematics exam practice workbook: Pick a page from the book and work through the questions. Check your answers from the back of the book, correcting any mistakes in green pen. That way you will know if there are any topics you need to revisit.

Corbettmaths GCSE Revision Cards: Each card has a different topic with the key facts on one side and QR codes on the back which will direct you to a tutorial video, exam questions and answers. Work your way through the exam questions until you feel confident in the chosen topic.

Hegarty Revision List: Use the revision list on the google classroom which has been provided by Hegarty. For each topic there is a number for the Hegarty clip. Type this in the search bar on Hegarty, it will take you to the video tutorial and quiz.

Approach the November mocks properly: Mock exams are the biggest opportunity you'll get to test the waters before your real exams. Revising for these with a strict timetable (and sticking to it) will mean you're well-rehearsed by May and June.

Revision sessions: M3 is open for revision every day after school except Thursdays. Also, speak to your maths teacher as they may also be providing revision sessions during the week.

Useful Websites:

Corbett Maths links from the revision cards

https://corbettmaths.com/

Hegarty Maths lots of quizzes and tutorial videos, links to the revision list.

https://hegartymaths.com/

Maths genie past papers for practice

https://www.mathsgenie.co.uk/gcse.html

Maths Teacher Hub lots of questions and answers for every topic and level.

https://www.mathsteacherhub.com/topics-secondary.html

On Maths past papers for practice

https://www.onmaths.com/

Mr Barton top 20 topics revision Quizzes categorised into topics

http://www.mrbartonmaths.com/blog/gcse-maths-20-topicrevision-plan/

As a department we can be contacted on the following emails:

mfuller@alns.co.uk (Mathematics Curriculum Director)

mflower@alns.co.uk (Associate Curriculum Leader)

pvowles@alns.co.uk jgray@alns.co.uk droberts@alns.co.uk twehrle@alns.co.uk

scook@alns.co.uk

Foundation Formula Sheet

Perimeter, Area and Volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

Area of a trapezium =
$$\frac{1}{2}(a+b)h$$

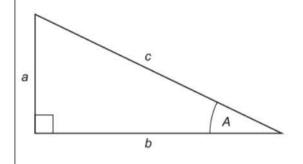
Volume of a prism = area of cross section × length

Where r is the radius and d is the diameter:

Circumference of a circle = $2\pi r = \pi d$

Area of a circle = πr^2

Pythagoras' Theorem and Trigonometry



In any right-angled triangle where a, b and c are the length of the sides and c is the hypotenuse:

$$a^2 + b^2 = c^2$$

In any right-angled triangle ABC where a, b and c are the length of the sides and c is the hypotenuse:

$$\sin A = \frac{a}{c}$$
 $\cos A = \frac{b}{c}$ $\tan A = \frac{a}{b}$

Compound Interest

Where P is the principal amount, r is the interest rate over a given period and n is the number of times that the interest is compounded:

Total accrued =
$$P\left(1 + \frac{r}{100}\right)^n$$

Probability

Where P(A) is the probability of outcome Aand P(B) is the probability of outcome B:

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

Higher Formula Sheet

Perimeter, Area and Volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

Area of a trapezium =
$$\frac{1}{2}(a+b)h$$

Volume of a prism = area of cross section × length

Where r is the radius and d is the diameter:

Circumference of a circle = $2\pi r = \pi d$

Area of a circle = πr^2

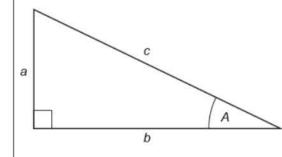
The Quadratic Formula

The solutions of $ax^2 + bx + c = 0$ where $a \neq 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Pythagoras' Theorem and Trigonometry

C



In any right-angled triangle where a, b and c are the length of the sides and c is the hypotenuse:

$$a^2 + b^2 = c^2$$

In any right-angled triangle ABC where a, b and c are the length of the sides and c is the hypotenuse:

$$\sin A = \frac{a}{c}$$
 $\cos A = \frac{b}{c}$ $\tan A = \frac{a}{b}$

$$\cos A = \frac{b}{a}$$

$$\tan A = \frac{a}{1}$$

In any triangle ABC where a, b and c are the length of the sides:

sine rule:
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

cosine rule:
$$a^2 = b^2 + c^2 - 2bc \cos A$$

Area of triangle =
$$\frac{1}{2}ab \sin C$$

Compound Interest

Where P is the principal amount, r is the interest rate over a given period and n is the number of times that the interest is compounded:

Total accrued =
$$P\left(1 + \frac{r}{100}\right)^{1}$$

Probability

Where P(A) is the probability of outcome Aand P(B) is the probability of outcome B:

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

 $P(A \text{ and } B) = P(A \text{ given } B)P(B)$





These are the official OCR Revision Guides and **Exam Practice Work Books.**