OLD BUCKENHAM
HIGH SCHOOL

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OBHS KS4 Subject Information

(Core subject)

Title of Course:
Mathematics

Head of Faculty: Mr David Foreman

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Course Overview

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Exam Board:	AQA course code 8300		
Paper 1:	Non-Calculator,	80 marks,	1 hour 30 minutes
Paper 2:	Calculator,	80 marks,	1 hour 30 minutes
Paper 3:	Calculator,	80 marks,	1 hour 30 minutes

Two Tiers of entry: Higher and Foundation

On the Higher Tier grades available are from 4 to 9
On the Foundation Tier grades available from 1 to 5

Each paper gets progressively more difficult as you go through them.
Easier concepts at the start – Hardest concepts at the end
More questions involve problem solving skills compared to the previous GCSE course.

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GCSE Maths

Formulae you'll need to know

Pythagoras' theorem

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

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

Trigonometry formulae

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

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

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 = $\frac{1}{2} ab \sin C$

Circumference and area of a circle

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

Perimeter, area, surface area and volume formulae

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 x length

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

The quadratic formula

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

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

Probability

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

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

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

AQA

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Course Resources

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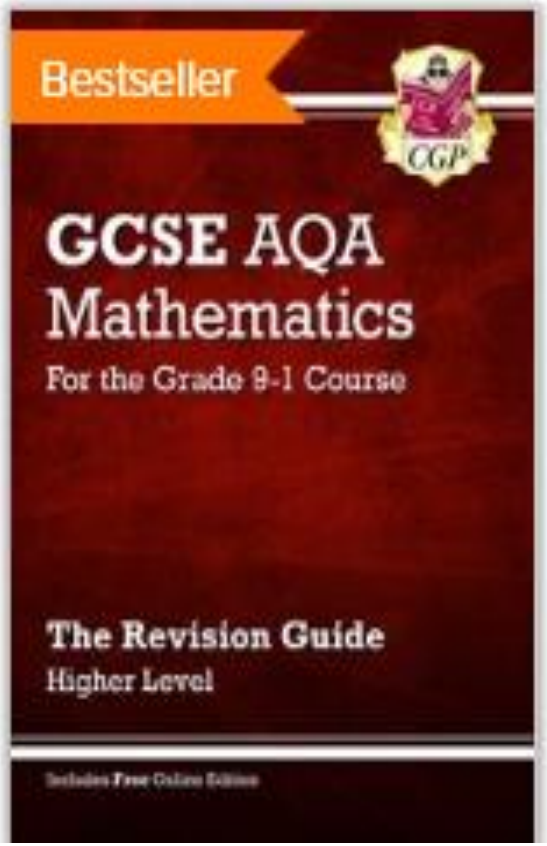

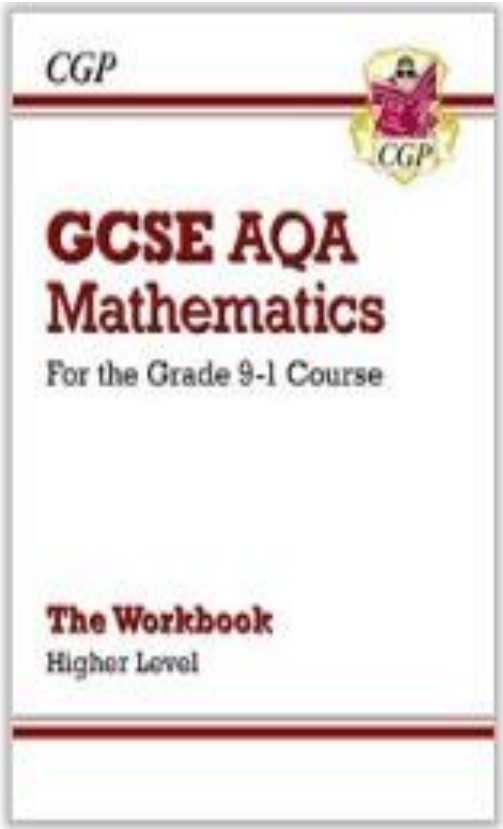

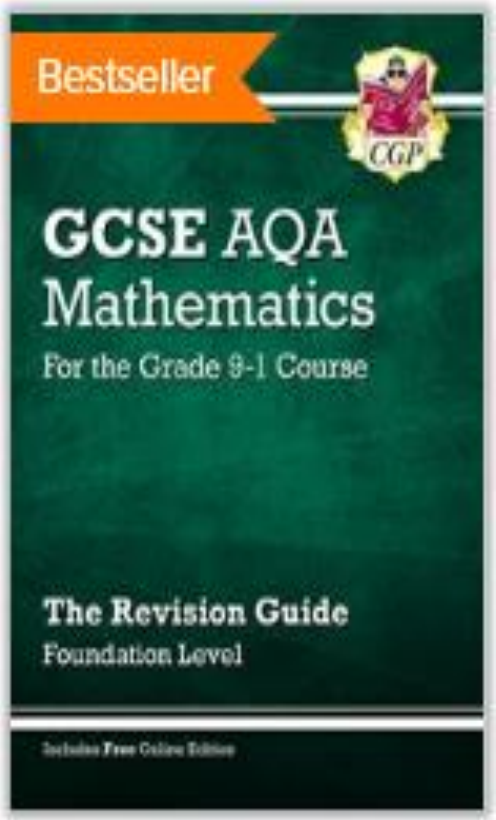

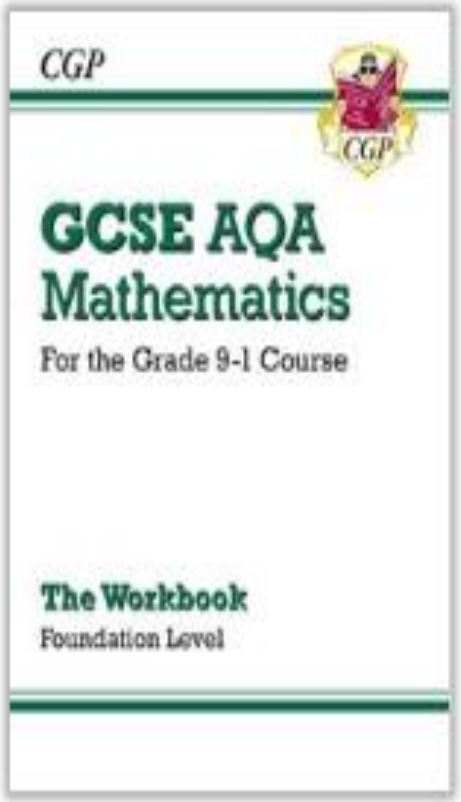

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Useful Resources

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1. https://www.aqa.org.uk/exams-administration/exams-guidance/find-past-papers-and-mark-schemes

2. https://www.bbc.com/bitesize/levels/z98jmp3

3. https://corbettmaths.com/5-a-day/

4. https://www.missbsresources.com/quick-wits-revision

5. http://mrbartonmaths.com/students/gcse/