

REVISE PEARSON EDEXCEL GCSE (9–1) Mathematics

REVISION NOTEBOOK





SCAN

ORGANISE

REVISE

your notes with the free





revise pearson edexcel gcse (9–1) Mathematics foundation



Series Consultant: Harry Smith

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Introduction

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Making great revision notes

Making your own revision notes is one of the best ways to revise. Unlike in your exam, there are no right answers when it comes to making revision notes – you get to decide which methods of making notes work best for you.



The 1-2-3 method

You can use this method to get started with your own revision notes:



Super-summaries

Once you have finished a page of notes, try to summarise the most important facts or skills in one or two bullet points. When you are scanning back through your notes, this summary can help to trigger your memory for **all** the notes on that page.

You can use these super-summaries to make **flashcards** later on in your revision, or scan through them quickly the night before the exam. You could even compile them all into a **one-pager** – this is **one side of A4** with a list of the key points or topics to remember for a particular exam.

Checklists **Bullets** Write lists of things you Use short sentences starting need to remember. These on new lines rather than full could be: paragraphs to make notes on: vocabulary or key words reasons or opinions dates and places advantages and steps in a skill or disadvantages process. • causes and effects. Top note-making Boxes techniques Draw boxes to make parts Concept maps of your notes stand out Use a central heading and (or stay separate). For arms to write notes - just example: like this! Works great for: key formulae or golden • different examples of rules something case studies. links between topics. **Keep it interesting** CLOUDS There are lots of simple ways to spice up your notes. Try some of the ideas on the right, or come up with your own colour-code, for example: black = normal text BANNERS • blue = tricky topic MAKE LINKS yellow highlighter = key word red arrow = connections. UNDERLINING STICK THINGS IN HIGHLIGHTING Some dos and don'ts of revision notes **Use headings** – structure your notes in X Loose pages - don't tuck sheets of digestible chunks. paper into your notes. They can fall out and get out of order. **Keep it neat** – the best notes are ones you can read back over later in your X Elaborate diagrams - don't waste a lot of time copying complicated graphs or revision. pictures. You can always refer back to the Recap and repeat – aim to look back over textbook if you need to. each set of notes at least once. X Long paragraphs – it's easier to revise Look after yourself – drink plenty of from lists, bullets and key points than from water, get plenty of sleep and take regular dense passages of text. breaks. _ _ _ _ _ _ _ _ _ Shorthand

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Place	lue
The value of each digit in a number depends on i 6349 = 1000000000000000000000000000000000000	its position .
If you only remember two things • Tenths are bigger than hundredths, which are big • When working with money, work in either pounds	ger than thousandths. or pence, but not both.
7 Had a go Nearly the	re Nailed it! 1

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Negative numbers

WNumbers lower than O are called negative numbers.

To add or subtract a negative number, change the double signs first.

 $\begin{array}{c} +- \rightarrow -\\ -- \rightarrow +\end{array}$

If you only remember two things...

• When you add a negative number, the answer is lower.

• When you subtract a negative number, the answer is higher.







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Number

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Rounding numbers

To round a number, you look at the **next digit to the right** on a place value diagram. $\bigvee 5$ or more \rightarrow round up, less than $5 \rightarrow$ round down.

If you only remember one thing...

Had a go

• The first significant figure is the first non-zero digit.

Nearly there



Adding and subtracting

When adding or subtracting whole numbers, add or subtract the **units column** first, then the tens, then the hundreds.

Don't forget to **carry** or '**borrow**' where necessary.

If you only remember one thing...

• Make sure you are confident using written or mental methods and using a calculator.







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Multiplying and dividing

When you multiply, start with the digit furthest to the **right**. When you divide, start with the digit furthest to the **left**.

If you only remember one thing...

Had a go

• Show your working even if you use a mental method or a calculator.

Nearly there



Decimals and place value

Y To compare decimal numbers start with the place value furthest to the left.
 Y Make sure the decimal points align vertically.

If you only remember one thing...

• Decimal numbers with more digits are not necessarily bigger.









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Number

Operations on decimals

To multiply decimals, ignore the decimal point and **multiply as normal**. Then count the **total number of decimal places** in the question and use the same number of decimal places in the answer.

If you only remember one thing...

Had a go



• When using a written method to add or subtract decimal numbers make sure the decimal points line up.





Squares, cubes and roots

 \bigvee A whole number multiplied by itself gives a **square number**.

A whole number multiplied by itself and then multiplied by itself again gives a **cube number**.

If you only remember two things...

• Learn the squares of the numbers from 1 to 15, and the corresponding square roots.

Nearly there

• Learn the cubes of 2, 3, 4, 5 and 10 and the corresponding cube roots.





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If you only remember one thing...

Had a go

• When you multiply you add the powers, and when you divide you subtract the powers.

Nearly there





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Estimation

You can estimate the answer to a calculation by **rounding each number** to 1 significant figure, and then doing the calculation.

If you only remember one thing...

• Write down your rounded values before doing the calculation.

Nearly there



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Number

Factors, multiples and primes

The **factors** of a number are any numbers that divide into it exactly.

A prime number has exactly two factors.

 \bigvee The **multiples** of a number are all the numbers in its times table.

If you only remember one thing...

• Use a factor tree to find prime factors.

Nearly there

Had a go





Number

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HCF and LCM

The highest common factor (HCF) of two numbers is the **highest number that is a factor of both numbers**.

The lowest common multiple (LCM) of two numbers is the **lowest number that is a** multiple of both numbers.

If you only remember one thing...

• Use a Venn diagram to help you to find the HCF and LCM.







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Fractions

The top number in a fraction is called the **numerator**, and the bottom number is called the **denominator**.

Equivalent fractions describe the same amount.

You can **simplify** a fraction by dividing the numerator and denominator by a common factor.

If you only remember one thing...

Had a go

• To find a fraction of an amount, divide by the denominator then multiply by the numerator.

Nearly there





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Operations on fractions

Adding or subtracting fractions – write the fractions with the same denominator.

Wultiplying fractions – Multiply the numerators and denominators.

 \bigvee **Dividing** fractions – Turn the second fraction upside-down and change \div to \times .

If you only remember one thing...

• Use LCMs to find the common denominator for additions and subtractions.





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Number

Mixed numbers

Wixed numbers have a whole number part and a fraction part.

V Improper fractions have a numerator larger than their denominator.

If you only remember one thing...

Had a go

• Write mixed numbers as improper fractions before multiplying or dividing.

Nearly there





Calculator and number skills

 \bigvee Remember the order of operations: **BIDMAS**.

To find the **reciprocal** of a number you write it as a fraction then turn the fraction upside down.

• Show your working even when you use a calculator.

Nearly there

J Copyrighted Material Number
Standard form 1
Numbers in standard form have two parts . 7.3×10^{-6}
This part is a numberThis part is agreater than or equal topower of 101 and less than 10
You can enter numbers in standard form on a calculator using the $\times 10^{10}$ key.
 If you only remember one thing Numbers written in standard form only have one digit to the left of the decimal point.
Had a go Nearly there Nailed it! 17

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Standard form 2

To **multiply or divide** numbers in standard form multiply or divide the number parts, then the powers of 10.

To add or subtract numbers in standard form write them as ordinary numbers first.

If you only remember one thing...

• If you are asked for an answer in standard form, double check that your answer is in the correct form.

Nearly there

Nailed it!



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Number

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Counting strategies

A **systematic** method means that you have found every possible combination.

If you only remember one thing...

Had a go

• You can number items in lists to save time in the exam.

Nearly there



Problem-solving practice 1

Use this page and the next page to make notes on problem-solving strategies that work for you, or to practise problem-solving questions.

16	vou	onlv	remember	one	thing
100	y				

- If a question is worth more than 1 mark, that means you ${\tt must}$ show some workings.



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Nailed it!