

# Course Mapping Guide

## Secondary Mathematics

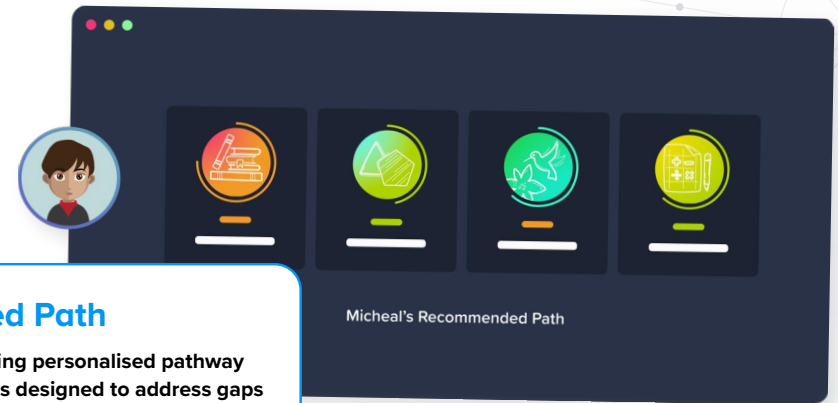
# About CENTURY

CENTURY is a learning platform that uses artificial intelligence to personalise learning for every learner. Our team of experienced teachers have created all of our content for English, maths, science, geography and physical education from years 2 to 11, as well as functional skills content for post-16 learners. All courses are aligned to the national curriculum and national standards.

- ✓ Learning materials and questions for primary, secondary and post-16 learners
- ✓ Tailored to each learner's skills and knowledge
- ✓ Powered by the world's leading adaptive learning platform
- ✓ Web-based learning for tablets, laptops and desktops



# How does CENTURY work?



## Diagnostics

Learners begin by completing diagnostics that quickly identify knowledge gaps and misconceptions, and help CENTURY recommend the best learning materials for each individual learner.

## Recommended Path

This constantly adapting personalised pathway contains micro-lessons designed to address gaps in knowledge, provide stretch and challenge and promote long-term memory retention.

## Leadership Dashboard

Senior and middle leaders get an overview of performance and engagement on a subject, class and learner level.

## Achievements

Learners get rewarded with badges and streaks for completing micro-lessons or for using CENTURY over a certain period of time to increase their motivation and engagement.

## Automated Marking

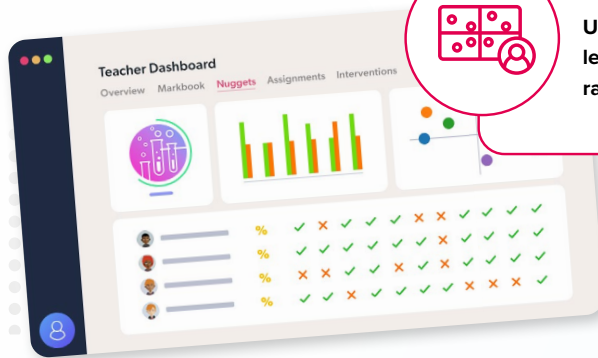
Teachers can view data in real time, to help quickly identify which learners require additional support or further stretch.

## Teacher Dashboard

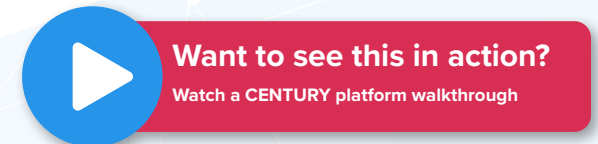
Use the markbook to monitor individual learners and whole-class trends with a range of dashboards.

## Learner Dashboard & Guardian Portal

Learners can identify their strengths and areas for improvement. Parents and guardians can monitor their learner's progress, completed work, and see work set.



Secondary Mathematics Course Mapping



# Mathematics Courses

## Secondary

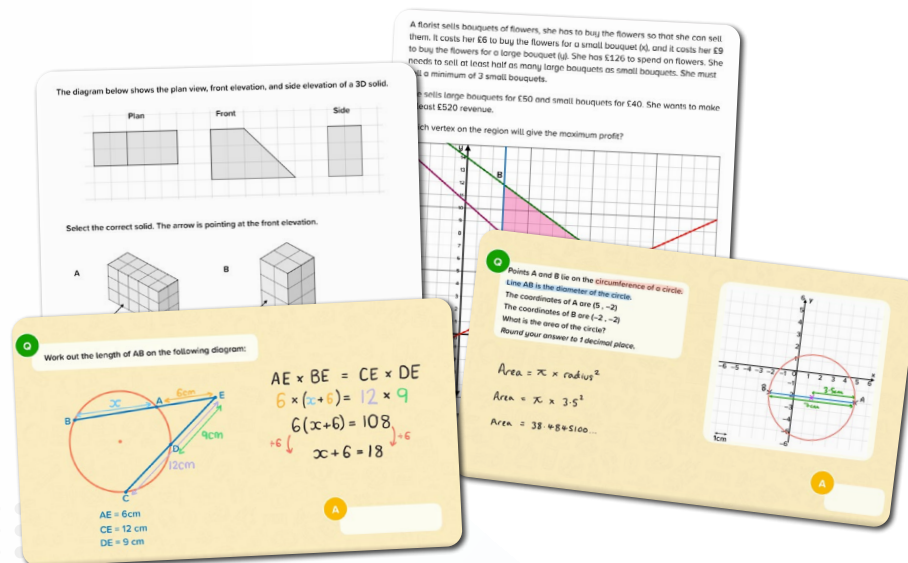
These courses have been created by our team of experienced secondary mathematics teachers.

Edexcel Specification: 1MA1

AQA Specification: 8300

OCR Specification: J560

Eduqas Specification: C300P



### Mathematics Secondary (F)



### Mathematics Secondary (H)



### Mathematics Secondary (F+)



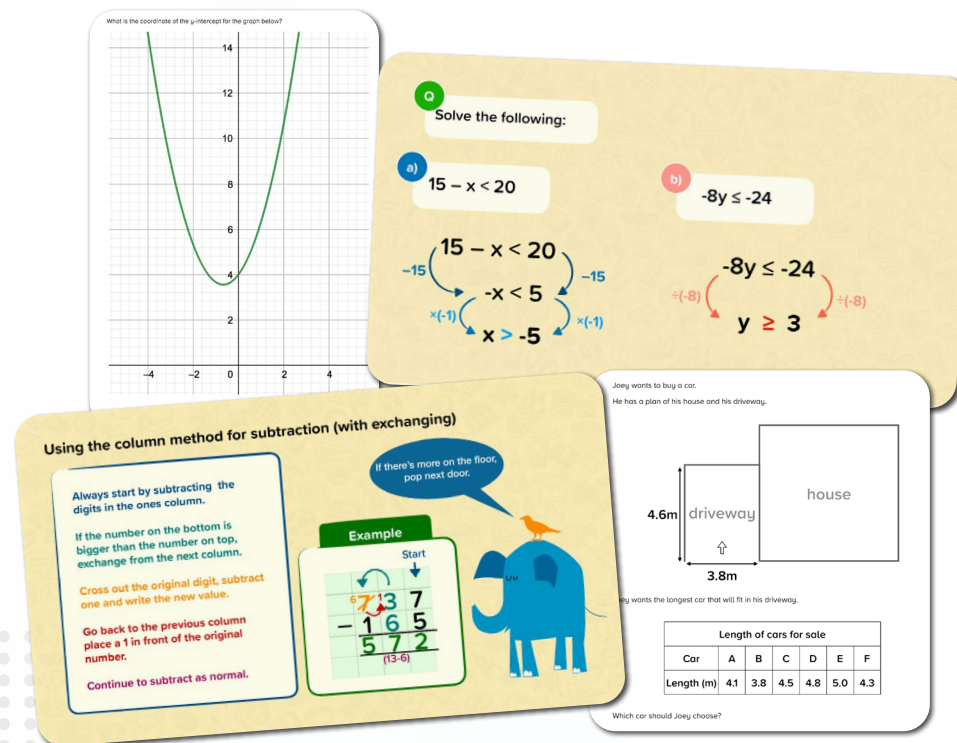
### Bridge to A-Level Mathematics

[Download course content](#)

# Mathematics Courses

## Secondary Edexcel

These courses have been created by our team of experienced secondary mathematics teachers.



### Number & Measure Level 1: Edexcel Award

Specification: ANM10  
QAN: 600/2241/3



### Number & Measure Level 2: Edexcel Award

Specification: ANM10  
QAN: 600/2242/5



### Algebra Level 2: Edexcel Award

Specification: AAL20  
QAN: 600/6631/3



### Algebra Level 3: Edexcel Award

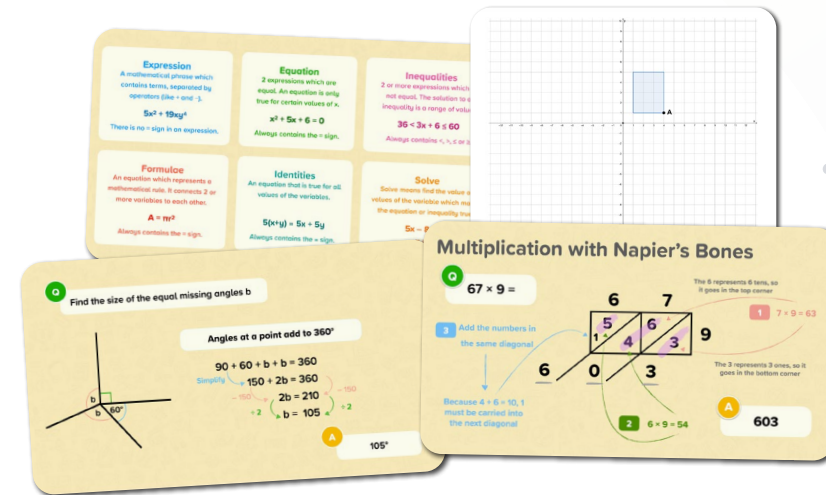
Specification: AAL30  
QAN: 600/6632/5



# Mathematics Courses

## Secondary WJEC

These courses have been created by our team of experienced secondary mathematics teachers.



### Mathematics GCSE Unit 1: WJEC (F)

Specification: 3320UA  
QAN: C00/4968/0



### Mathematics GCSE Unit 1: WJEC (H)

Specification: 3320U1  
QAN: C00/4968/0



### Mathematics GCSE Unit 2: WJEC (F)

Specification: 3320UB  
QAN: C00/4968/0



### Mathematics GCSE Unit 2: WJEC (H)

Specification: 3320U2  
QAN: C00/4968/0



### Mathematics GCSE Unit 3: WJEC (F)

Specification: 3320UC  
QAN: C00/4968/0



### Mathematics GCSE Unit 3: WJEC (H)

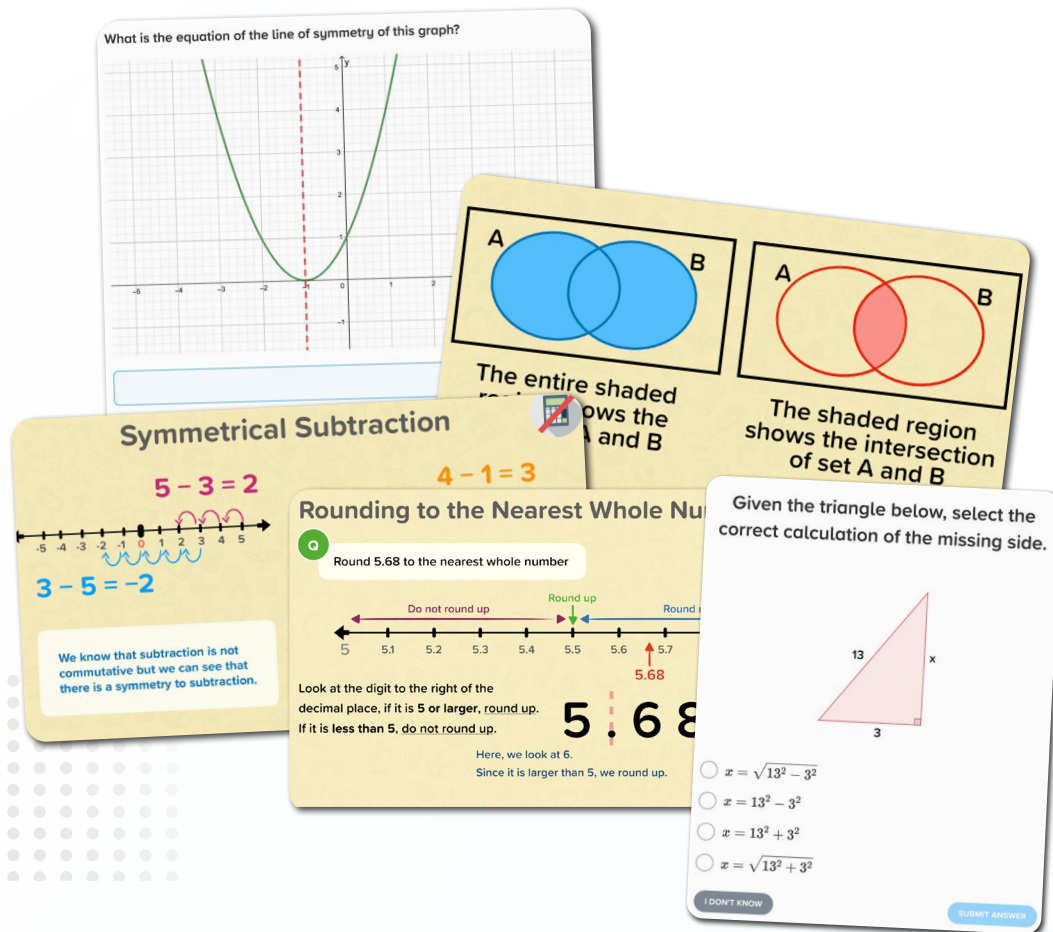
Specification: 3320U3  
QAN: C00/4968/0

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# Mathematics Courses

## IGCSE Cambridge

These courses have been created by our team of experienced secondary mathematics teachers.



### Mathematics IGCSE: Cambridge (Core)

Specification: 0580/0980



### Mathematics IGCSE: Cambridge (Extended)

Specification: 0580/0980



### Mathematics International IGCSE: Cambridge (Core)

Specification: 0607



### Mathematics International IGCSE: Cambridge (Extended)

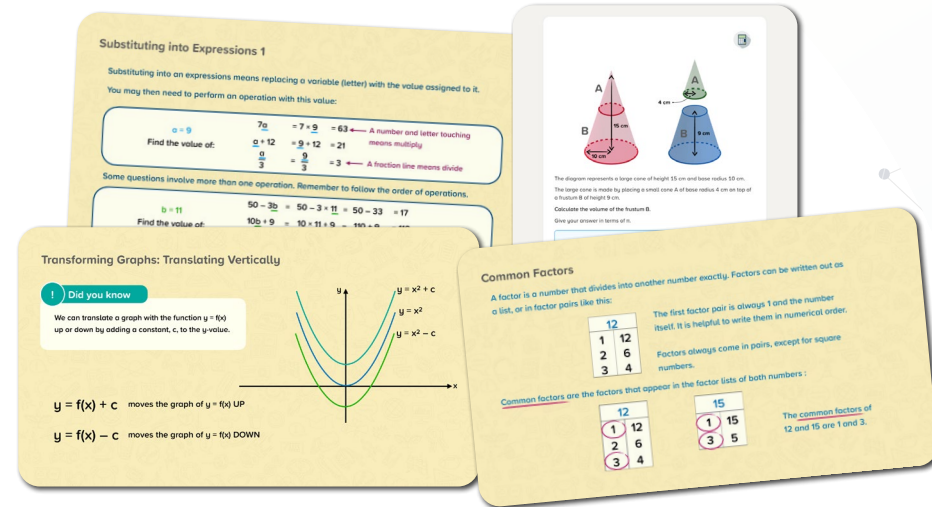
Specification: 0607

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# Mathematics Courses

## IGCSE Edexcel

These courses have been created by our team of experienced secondary mathematics teachers.



### Mathematics IGCSE: Edexcel (F)

Specification: 4MA1



### Mathematics IGCSE: Edexcel (H)

Specification: 4MA1



### Mathematics IGCSE Unit 1: Edexcel Modular (F)

Specification: 4XMAF



### Mathematics IGCSE Unit 1: Edexcel Modular (H)

Specification: 4XMAH



### Mathematics IGCSE Unit 2: Edexcel Modular (F)

Specification: 4XMAF



### Mathematics IGCSE Unit 2: Edexcel Modular (H)

Specification: 4XMAH

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# Mathematics Courses

## Financial Maths

This course covers skills relating to financial maths; including underlying mathematical skills as well as understanding of everyday finance and financial products.



### Financial Maths

Here is a part of a debit card statement.

**BANKKEYS**  
Current Account Statement  
Account number: 019832723478  
Sort Code: 40-00-15

| Date     | Description             | £ Out   | £ In   |
|----------|-------------------------|---------|--------|
| 19th Oct | Barista Coffee - Salary | £125.00 |        |
| 19th Oct | Best Gym                | £34.50  |        |
| 20th Oct | PizzaPalace             | £19.95  |        |
| 21st Oct | Big Bank - Cash Deposit |         | £50.00 |
| 22nd Oct | Denim Direct            | £65.99  |        |

How much money was paid into the account?  
£ \_\_\_\_\_

**Lords FlexSuper**  
✓ £2.50 a month  
✓ Free European travel insurance  
✓ Free roadside breakdown cover

**Lords FlexPremier**  
✓ £4 a month  
✓ 2% cashback on utility bills  
✓ 1% cashback on mobile bills and gym memberships

Some current accounts may have a monthly fee, but come with benefits which may include things like:

- Breakdown cover
- Travel insurance
- Cashback

There may be a requirement on these accounts to pay a minimum amount in to it every month.

calculated every month  
the changes in prices  
services. Prices are  
ess areas in the UK,  
regional differences

ded are known as  
oods. It is designed  
il things people  
around 700  
n the basket, under  
ood, clothing,  
sehold utilities.

**Inflation Measures:**  
Consumer Price Index (CPI)  
Retail Price Index (RPI)

The basket of goods is regularly updated.  
Recently taken from...

Bryn wants to change some pounds to euros for his holiday to Italy. He has £300 to exchange.

**EUROS ARE US!**

| Amount to exchange | Rate   |
|--------------------|--------|
| £1 - £99.99        | 1.1598 |
| £100 - £499.99     | 1.1619 |
| £500 - £10,000     | 1.1623 |

How many euros will he get?  
You do not need to include units in your answer.

**Budgeting**

Budgeting can help with managing your money. Every month there are essential things to spend money on, these are usually:

- Rent or mortgage
- Bills (gas, electricity and water)
- Council Tax
- Internet and television
- Car or travel expenses
- Food

Any left over money is called your disposable income.

**Electricity Co.**  
Name and address  
Dr Kate Jones  
12 Woodford Drive  
Somerby  
SB3 8PY  
Account No. 12345678  
Bill Ref. EB3-21

Statement Date 13th April  
Bill Period: 12/03/24 - 12/04/24

**Your Electricity Statement**  
Account Balance: £35.23 CR

Electricity Costs  
£87.05  
Inc. VAT at 5%

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# Mathematics Courses

## Secondary White Rose

This mapping document shows how our content aligns with the White Rose scheme of learning.

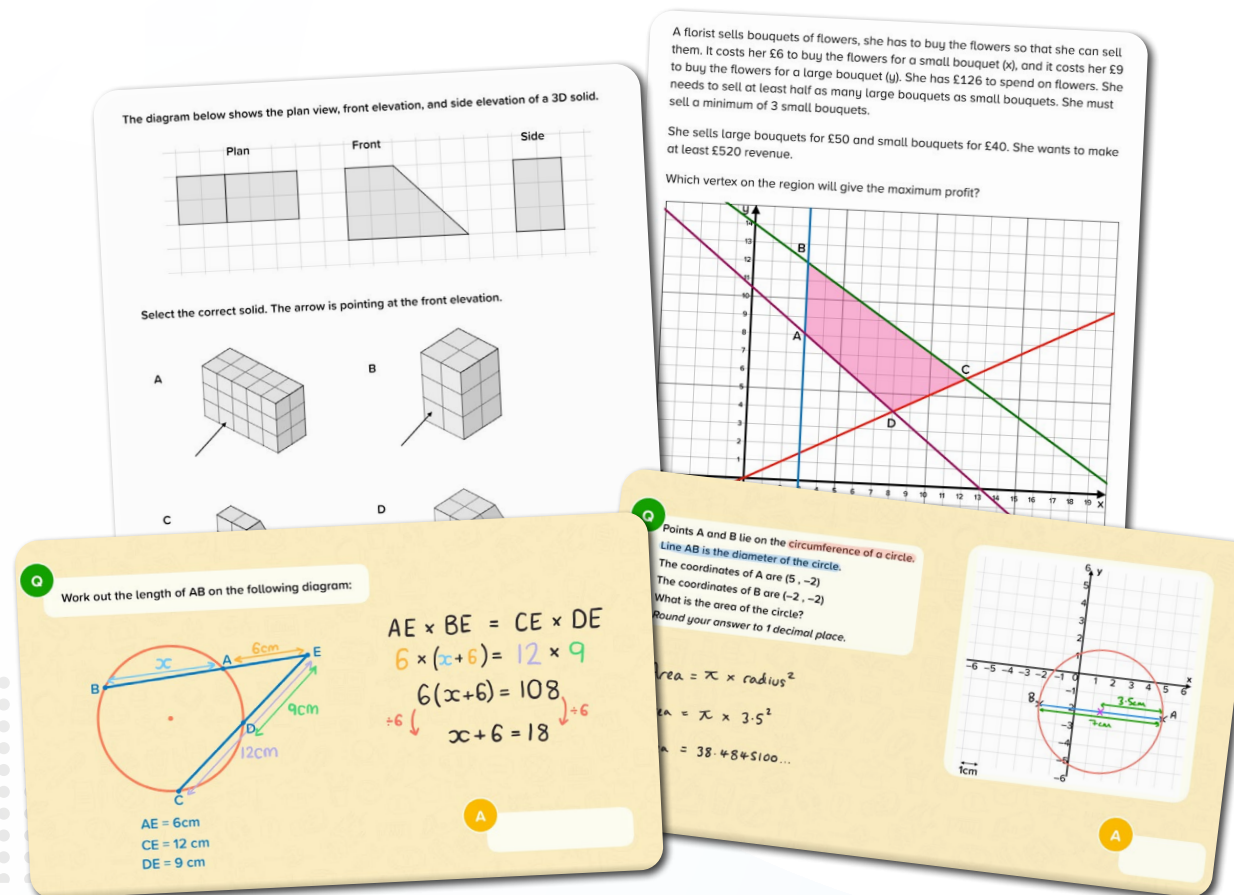
White Rose Mathematics - Year 7

White Rose Mathematics - Year 8

White Rose Mathematics - Year 9

White Rose Mathematics - Year 10

White Rose Mathematics - Year 11

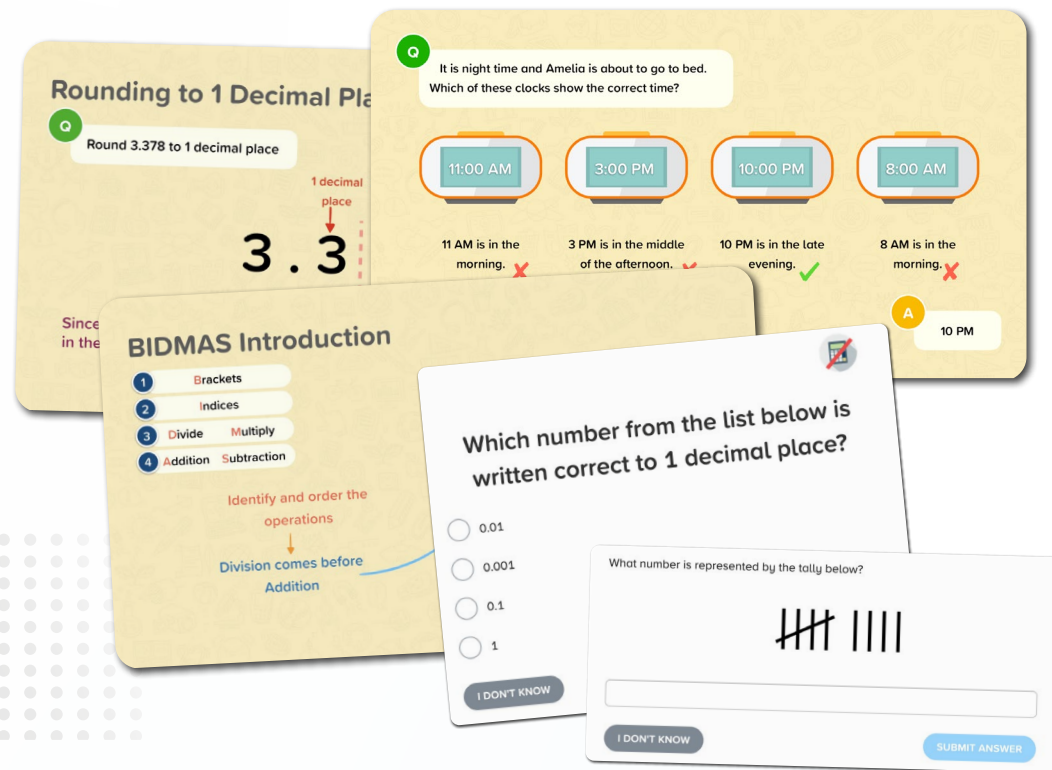


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# Mathematics Courses

## Functional Skills

Our functional skills courses cover the knowledge and skills required for the functional skills qualifications, mapped to the national requirements outlined by the DfE.



**Mathematics Functional Skills  
(Entry 1)**



**Mathematics Functional Skills  
(Entry 2)**



**Mathematics Functional Skills  
(Entry 3)**



**Mathematics Functional Skills  
(Level 1)**



**Mathematics Functional Skills  
(Level 2)**

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# Mathematics Courses

## Advanced Maths

These courses have been created by our team of experienced secondary mathematics teachers to support students taking advanced maths qualifications.

In the **pink** section the gradient is always decreasing.

In the graph of  $f(x)$  the gradient starts off steep and positive, then gets less steep. It then becomes negative and then more steeply negative.

This is shown in the graph of  $f'(x)$  by the gradient function getting less steep and then becoming negative, to its most negative point.

The graph of  $f''(x)$  is negative for this section as the **rate of change of the gradient** is negative.

In the **orange** section the gradient is always increasing.

In the graph of  $f(x)$  the gradient starts off steep and negative, then gets less steep. It then becomes positive and then more steeply positive.

This **graph** the **gradient** be

**Functions and Notation**

A **mapping** is a rule that takes one group of numbers and turns it into another group. There are three types of mappings:

**One-to-many**  
One value in the input maps to **multiple** values in the output.

**One-to-one**  
One value in the input maps to **one** value in the output.

**Many-to-one**  
**Multiple** values in the input map to one value in the output.

One-to-one and many-to-one mappings are also **functions**. In these cases each input only maps to one output.

A section of row 15 and 16 of Pascal's triangle is shown below.

|   |    |     |     |      |      |
|---|----|-----|-----|------|------|
| 1 | 15 | 105 | ?   | 1820 | 4368 |
| 1 | 16 | 120 | 560 | 1820 | 4368 |

Find the next value on row 15.

**Q** Find the first three terms in the expansion of  $(3x - 2)^4$ , in descending powers of  $x$ .

**1** Identify values:  $n = 4$   $a = 3x$   $b = -2$

**2** Substitute in:  ${}^4C_0(3x)^4(-2)^0 + {}^4C_1(3x)^3(-2)^1 + {}^4C_2(3x)^2(-2)^2$

**3** Find the **binomial coefficients** using a calculator. Calculate the numerical powers:  
 $1(81x^4)(1) + 4(27x^3)(-2) + 6(9x^2)(4)$

**4** Simplify:  $81x^4 - 216x^3 + 216x^2$

Descending powers will be the first three terms as the  $x$  term is first in the bracket

Remember:  $(px)^n = p^n x^n$

**A**  $81x^4 - 216x^3 + 216x^2$



### Advanced Maths: Differentiation

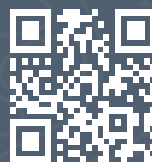


### Advanced Maths: Functions



### Advanced Maths: Binomial Expansion

**Questions?**  
Email [support@century.tech](mailto:support@century.tech)



**CENTURY**