

*"Success is not final, failure is not fatal: it is the courage to continue that counts."* – Winston Churchill

## Year 10 Foundation W&AW 3 Revision Topics

These are the topics that you have covered so far this year. These topics, if they appear on the assessment will be the ones that your teacher will be looking closely at how well you answer them.

Topic	Sparx Maths Independent Practice Codes
4 Operations	U293, U453, U868, U417, U478, U735, U127
Rounding & Estimating	U480, U298, U731, U965, U225
Perimeter	U351, U993
Area	U993, U265, U970, U945, U424
Surface Area	U142, U464, U523, U893, U929, U259, U871
Volume	U786, U174, U484, U915, U116, U617
Area & Circumference of Circles and Arcs	U221, U373, U767, U604, U950
Factors, Multiples & Primes	U211, U236
Prime Factorisation	U739
Simplifying Expressions	U105, U662
Substitution	U201, U585
Expanding	U179, U768
Factorising	U365, U178, U963
Solving Equations	U505, U755, U325, U870
Rearranging Formulae	U556
Fractions, Decimals and Percentages	U888, U594
Percentages	U554, U349, U773, U671
Express as a Percentage	U925, U278
Reverse Percentages	U286
Compound Interest	U332
Fractions of Amounts	U881, U916
Fractions Operations	U736, U475, U544

**NOTE:** There will be other topics covered in the assessments, some are untaught topics, some are topics that have been taught at KS3. This is to help you work on your exam skills of scanning for the questions you are able to access which is a key skill to do well in your maths GCSE exam.

*"Success isn't overnight. It's when every day you get a little better than the day before. It all adds up"* – Dwayne Johnson

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Topic	Sparx Maths Independent Practice Codes
Ratio	U687, U753, U577, U921, U676
Proportion	U721, U610
Pythagoras' Theorem	U385
Right-Angled Trigonometry	U605, U283, U545, U627
Sequences	U530, U958, U978, U213, U498, U680
Drawing Graphs	U741, U989
Equation of a Line	U135, U848, U477
Parallel Lines	U337
Solving Inequalities	U759, U509, U738, U145
Simultaneous Equations	U760
Graphical Simultaneous Equations	U836
Factorising Quadratics	U178
Solving Quadratics	U288
Quadratic Graphs	U989

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# How to Log Into Sparx Maths

## Sparx Maths

### Student Login

You're logging in to Sparx at **Ormiston Chadwick Academy**.  
[Not your school?](#)

Log in using your username and password.

Your username will usually be your name and surname without spaces.

Log in to Sparx using Microsoft

or

Use your Sparx login

Username:

Password:  
 [Show](#)

[Forgotten Sparx login details?](#) Log in

If you are logged into your school emails on the device, you can just click this button to log in

If you can't remember your password, click this button and type in your details – this will send an email to your teacher getting them to reset your password.

Click the button again in a short while and it will then let you reset your password (make it memorable)

If you have never logged in before, click this button and follow the steps

You will then be brought to the following page where you will find any compulsory homework set for you by your teacher – you need to be completing this weekly to ensure you are retrieving the knowledge that you have learnt throughout the year.

Sparx MathsO XP Teacher

- Compulsory
- XP Boost
- Target
- Independent Learning

## Hey Teacher,

This is your personalised Compulsory homework. You need to answer every question correctly to complete it.

Introducing Sparx Maths Not started

**About Sparx Maths**

(1:35)

Start >

**Try some questions**

(about 5 minutes)

Locked

**Sparx Maths Tips**

(0:39)

Locked

If you haven't been on Sparx Maths yet this year, you will need to do this short tutorial to help you understand how the website works.

# How to do Sparx Maths independent Practice

**Sparx Maths** Hey Teacher, This is your personalised Compulsory homework. You have 0/1

On this dropdown, you can change the curriculum level (Sparx Maths sometimes categorises things at a different stage than we do)

You can change the difficulty level to suit your confidence level

From the homepage, click the 'Independent Learning' tab to open this page.

XP Boost  
Target  
Independent Learning

Introducing Sparx Maths (Not started)

About Sparx Maths (1:35) Start >

Try some questions (about 5 minutes) Locked

Sparx Maths Tips (0:39) Locked

Activate Windows  
Go to Settings to activate Windows.

**Sparx Maths** Independent Learning

Independent Learning

Find topics My activity

Type in the code from the revision list to bring up the revision for that topic

Search for topics: M354 Your curriculum: Key Stage 3 Default level: Level 3

1 topic found

Number > Dividing  
Using a written method to divide integers - M354

Ratio and Proportion 3:2  
Geometry  
Probability  
Statistics

**Sparx Maths** Independent Learning

Independent learning > Number > Dividing

Using a written method to divide integers - M354 Level 2

Show building blocks

Using a written method to divide integers

This will bring up the task - click on each question to revise the topic in more depth

If you are finding it difficult you can try some of the 'building blocks' tasks which will help you with the prior knowledge you need to access the main task

Introduce Question 1 Answer Question 2 Answer Question 3 Answer

Strengthen Question 1 Answer Question 2 Answer Question 3 Answer

Deepen Question 1 Answer Question 2 Answer Question 3 Answer

# How to complete a Sparx Maths task

BEFORE beginning the task you need to have paper to do your working out and to write down the bookwork codes.

The screenshot shows the Sparx Maths interface for a task titled "Using a written method to divide integers - M354". The task is at Level 2. Below the title, there is a section labeled "Show building blocks" which contains three levels of questions: "Introduce", "Strengthen", and "Deepen". Each level has three questions, each with an "Answer" button. A lightbulb icon is positioned to the right of the "Strengthen" section.

This will bring up the task – click on each question to revise the topic in more depth

If you are finding it difficult you can try some of the 'building blocks' tasks which will help you with the prior knowledge you need to access the main task

The screenshot shows a task page for "1A" with a "Bookwork code: 1A" and a "Calculator not allowed" warning. The instruction says: "Copy out the calculation below as neatly as you can. Work out the answer." The calculation is  $2 \overline{)82}$ . To the right is a multiplication table:

1	×	2	=	2
2	×	2	=	4
3	×	2	=	6
4	×	2	=	8

Below the grid are "Zoom" and "Watch video" buttons. A lightbulb icon is on the left, and an "Answer" button is at the bottom right.

Write down the bookwork code before starting the question (you will be asked for this later)

If you are stuck, watch the video which will be a similar question with different numbers – make notes to help you understand and then try the question again

Work out the answer on your paper, note it down then click here to type in your answer

"Mistakes are the stepping stones to wisdom." – Oprah Winfrey

## Key Examples for Frequent Questions

e.g. Find  $\frac{2}{3}$  of 12

STEP 1: Divide the amount by the denominator (bottom number)

$$12 \div 3 = 4$$

STEP 1: Multiply the answer by the numerator

$$4 \times 2 = 8$$

TIP: To find a percentage of an amount:

$$\text{Percentage} \times \text{Amount} \div 100$$

e.g.

Find 82% of 444.

$$82 \times 444 \div 100 = \underline{364.08}$$

TIP: When answering a ratio question, think carefully about which part of the information you have been given. (In this example, it is the difference)

e.g. Paul and Luke share some money in the ratio 4:7. Paul gets £12 less than Luke. How much did they have in total?

P	L	Total	Difference
4	7	11	3
16	28	44	12

They had £44 in total

TIP: When there are 3 numbers in the ratio, only include a difference column when it says 'less/more than'

TIP: When substituting, 'swap' the letter for the number (use brackets)

e.g.

$$3a + 2b \text{ given that } a = 3, b = 4$$

$$3(3) + 2(4) = 9 + 8 = 17$$

TIP: Multiply the number outside the bracket by the number inside the bracket

TIP: To simplify an expression, collect 'like' terms

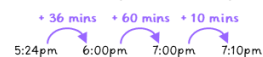
$$4a + b - 6a - 3b = -2a - 2b$$

TIP: Use a number line to help with the negatives

TIP: To find the time passed, count to the next hour, then the hour needed, then the final time

e.g.

How many minutes are between 5:24pm and 7:10pm?



$$36 + 60 + 10 = \underline{106 \text{ mins}}$$

$$\text{Area} = \pi \times r^2$$



TIP: Radius is halfway, diameter is all the way across

$$\pi \times 8^2 = 64\pi \text{ cm}^2 \text{ (in terms of } \pi) = 201.06 \text{ cm}^2 \text{ (2d.p.)}$$

TIP: If you are given the diameter, remember to halve to find the radius

TIP: Factors are numbers that fit into a number without remainders

e.g.

List the factors of 36

Find the numbers that 'multiply' to make 36

$$\begin{array}{ll} 1 \times 36 = 36 & \text{So the factors are} \\ 2 \times 18 = 36 & 1, 2, 3, 4, 5, 9, \\ 3 \times 12 = 36 & 12, 18, 36 \\ 4 \times 9 = 36 & \\ 6 \times 6 = 36 & \end{array}$$

TIP: Do them in this order so you don't miss any out

TIP: To solve an equation we need to find the value of the letter

e.g.

$$\begin{array}{r} \text{Solve } 8a - 5 = 11 \\ \phantom{8a} + 5 \phantom{=} + 5 \\ \hline 8a = 16 \\ \phantom{8a} \div 8 \phantom{=} \div 8 \\ \hline a = 2 \end{array}$$

TIP: To keep the equation balanced, do the same to both sides

TIP: If the number doesn't divide evenly, write as a fraction

TIP: Multiples are the numbers in your times tables

e.g.

The multiples of 6 are 6, 12, 18, 24, 30, ...

What is the 7th multiple of 6?  
 $7 \times 6 = 42$

What is the 10th multiple of 16?  
 $10 \times 16 = 160$

e.g.

Factorise  $4a + 20$

TIP: Think of the highest common factor of both terms

The HCF of  $4a$  and  $20$  is  $4$   
So divide both terms by  $4$

$$\begin{array}{l} 4a \div 4 = a \\ + 20 \div 4 = + 5 \\ \hline = 4(a + 5) \end{array}$$

TIP: Use the grid method to expand the brackets

e.g.

Expand  $5(3x + 4)$

$\times$	$3x$	$+ 4$
$5$	$15x$	$+ 20$

$$= 15x + 20$$

1, 2, 3, 4 "Round down/off"  
5, 6, 7, 8, 9 "Round up"

TIP: Draw the rounding line after the 'rounding column'

e.g. Round 7562 to the nearest 100

$$\begin{array}{r} 7562 \\ \hline = 7600 \end{array}$$

e.g. Round 18329 to the nearest 1000

$$\begin{array}{r} 18329 \\ \hline = 18000 \end{array}$$

TIP: When rounding down, the digits on the left of the rounding line stay the same (the ones on the right become zero)

Standard form is a number written in the form:

$$a \times 10^n$$

$a$  must be a number between 1 and 10 (can be 1, but not 10)  
 $n$  must be a whole number (can be positive or negative)

TIP: For numbers between 0 and 1, the power is negative (the negative power means divide)

Express 43 000 000 in standard form

$$43\,000\,000 = 4.3 \times 10^7$$

Area of a Parallelogram:

The area of a parallelogram is base  $\times$  perpendicular height (Perpendicular means 90°)

Area of a Rectangle:

The area of a rectangle is base  $\times$  height

Area of a Triangle:

The area of a triangle is base  $\times$  perpendicular height  $\div 2$  (Perpendicular means 90°)

Area of a Trapezium:

Half the sum of the parallel sides, then times the height between them. That is how to calculate the area of a trapezium.

The most important thing to remember is not to give up – if you write nothing for a question, you will definitely get it wrong, so have a guess, you will get marks for working out.