

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

Year 9 W&AW 3 Revision Topics

Revising for a maths exam is not about simply reading through notes. To improve and make progress with maths you need to 'do maths' – do lots of questions on topics that you need to become more confident with.

Use these codes in the Sparx Maths Independent Practice section of the website to enable you to effectively revise for your assessment and showcase your true mathematical ability.

Topic	Sparx Maths Independent Practice Codes
Estimating	M878
Directed Number Calculations	M106, M288
Mixed Number Operations	M601, M265, M931, M197, M619
Fractions, Decimals & Percentages	M264, M958
Interest	U533, U332
Original Value Problems	M528
Ratio	M885, M801, M525, M543
Expanding	M237, M792, M960
Factorising	M100
Forming & Solving Equations	M707, M634, M957
Changing the Subject of a Formulae	M184
Equation of a Line	M888, M205
Proportion	M478, M681
Surface Area	M534, M661, M936
Volume	M765, M722
Cylinders, Cones, Spheres & Pyramids	M697, M936, U116, U523, U617, U893, U484, U871
Compound Units	U151, U910, U527
Angles	M163, M818, M502, M606, M319, M653
Similarity	M324
Congruency	M124
Constructions	U245, U787, U187, U820

NOTE: These are all the topics we have covered this year, some aspects of each of the topics will be assessed in the assessment

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

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 Maths0 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.

0/1

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

Search for topics: M354 Your curriculum: Key Stage 3 Default level: Level 2

1 topic found

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

Ratio and Proportion 3:2

Geometry

Probability

Statistics

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

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

Introduce

Strengthen

Deepen

Question 1 Answer

Question 2 Answer

Question 3 Answer

Question 1 Answer

Question 2 Answer

Question 3 Answer

Question 1 Answer

Question 2 Answer

Question 3 Answer

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

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.

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

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

Copy out the calculation below **as neatly as you can**. Work out the answer.

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

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.

Key Examples for Year 9 W&AW 3

TIP: To estimate answers to calculations, round all numbers to 1 s.f. before calculating.

e.g. 3453×253
 $\approx 3000 \times 300$
 $= 900\,000$

To write a ratio as a fraction:

$\frac{\text{Part you want}}{\text{Total parts}}$

e.g. boys : girls
 $5 : 8$ ($5 + 8 = 13$)
 $\frac{5}{13}$ are boys $\frac{8}{13}$ are boys

Compound Interest/ Depreciation Formula

$\text{Amount} \times (\text{Multiplier})^{\% \text{ years}}$

TIP: To find the multiplier, add or subtract the % from 100%

e.g. If £300 invested for 3 years with 2% interest, the calculation would be:
 $\pounds 300 \times 102\%^3 = \pounds 318.36$

TIP: To change a percentage to a fraction, write the percentage over 100 and simplify.

$55\% = \frac{55}{100} = \frac{11}{20}$
 $8\% = \frac{8}{100} = \frac{2}{25}$

TIP: To add or subtract mixed numbers, convert to improper fractions first

$9\frac{1}{2} - 5\frac{3}{4}$
 $9\frac{1}{2} = \frac{2 \times 9 + 1}{2} = \frac{19}{2}$
 $5\frac{3}{4} = \frac{4 \times 5 + 3}{4} = \frac{23}{4}$
 $= \frac{19}{2} - \frac{23}{4}$
 $= \frac{38}{4} - \frac{23}{4}$
 $= \frac{15}{4}$
 $= 3\frac{3}{4}$

TIP: To multiply mixed numbers, convert to improper fractions first

$2\frac{1}{2} \times 1\frac{2}{3}$
 $2\frac{1}{2} = \frac{2 \times 2 + 1}{2} = \frac{5}{2}$
 $1\frac{2}{3} = \frac{1 \times 2 + 2}{3} = \frac{5}{3}$
 $= \frac{5}{2} \times \frac{5}{3}$
 $= \frac{5 \times 5}{2 \times 3}$
 $= \frac{25}{6}$
 $= 4\frac{1}{6}$

TIP: To divide mixed numbers, convert to improper fractions first

$2\frac{1}{2} \div 1\frac{2}{3}$
 $2\frac{1}{2} = \frac{2 \times 2 + 1}{2} = \frac{5}{2}$
 $1\frac{2}{3} = \frac{1 \times 2 + 2}{3} = \frac{5}{3}$
 $= \frac{5}{2} \times \frac{3}{5}$
 $= \frac{5 \times 3}{2 \times 5}$
 $= \frac{15}{10} = \frac{3}{2}$
 $= 1\frac{1}{2}$

To answer reverse percentage problems:

STEP 1: Work out what % the amount given is

STEP 2: Divide by the % number

STEP 3: Multiply by 100

e.g. John pays £60 for a bag after getting 20% discount. How much did it originally cost?
 $100\% - 20\% = 80\%$
 $\frac{80\% = 60}{100\% = 75}$
 $\frac{80}{100} = 0.8$
 $\frac{60}{0.8} = 75$
 $75 \times 100 = 7500$

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: To turn a fraction to a percentage, make the denominator 100:

e.g. $\frac{7}{20} = \frac{35}{100} = 35\%$
 $\frac{13}{25} = \frac{52}{100} = 52\%$

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
 $4a \div 4 = a$
 $+ 20 \div 4 = + 5$
 $= 4(a + 5)$

TIP: Use the grid method for double brackets

e.g. Expand and simplify $(x + 2)(x + 3)$

x	x	$+ 2$
x	x^2	$+ 2x$
3	$+ 3x$	$+ 6$

$= x^2 + 2x + 3x + 6$
 $= x^2 + 5x + 6$

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

e.g. Solve $8a - 5 = 11$

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

$8a - 5 = 11$
 $+ 5$ $+ 5$
 $8a = 16$
 $\div 8$ $\div 8$
 $a = 2$

e.g. Solve $+10 + 6y = 32$

TIP: If there isn't a sign in front of the number/letter, it is a +

$+10 + 6y = 32$
 $- 10$ $- 10$
 $6y = 22$
 $\div 6$ $\div 6$
 $a = \frac{22}{6}$

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

TIP: Get rid of the smallest letter first

e.g. Solve $4a + 3 = 2a + 15$

$4a + 3 = 2a + 15$
 $- 2a$ $- 2a$
 $2a + 3 = 15$
 $- 3$ $- 3$
 $2a = 12$
 $\div 2$ $\div 2$
 $a = 6$

TIP: Make x the subject means we need to get x on its own.

TIP: This is basically the same as solving equations, but instead of x = a number it will be x = an expression (mixture of letters and numbers)

e.g. $y = 3x - 5$
 $- 5$ $- 5$
 $y - 5 = 3x$
 $\div 3$ $\div 3$
 $\frac{y - 5}{3} = x$

TIP: Make x the subject means we need to get x on its own.

TIP: If there are any powers, get rid of them first. Remember the inverse of 2 is $\sqrt{\quad}$

e.g. $y = (3x + 1)^2$

$\sqrt{\quad}$ $\sqrt{\quad}$
 $y = 3x + 1$
 $- 1$ $- 1$
 $y - 1 = 3x$
 $\div 3$ $\div 3$
 $\frac{y - 1}{3} = x$

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