WCSA

Mathematics

Home Learning Book – Learning Cycle 1

@WorleMaths

Mathematics Year 8 Set 3

Name: _____Tutor Group: ___

Maths Teacher(s): _____

Learning Cycle 1

	Cycle.Week						
Sep 2018	1.1	3	4	5	6	7	
	1.1	10	11	12	13	14	Week 1 HW due
	1.2	17	18	19	20	21	Week 2 HW due
	1.3	24	25	26	27	28	Week 3 HW due
Oct 2018	1.4	1	2	3	4	5	Week 4 HW due
	1.5	8	9	10	11	12	Week 5 HW due
	1.6	15	16	17	18	19	Week 6 HW due
		22	23	24	25	26	Half Term
		29	30	31	1	2	Half Term
Nov 2018	1.7	5	6	7	8	9	Week 7 Hegarty Revision due (×4)
	1.8	12	13	14	15	16	Assessment Week
	1.9	19	20	21	22	23	Super Teaching Week

- During the Assessment Week (week 8), students will be assessed on the material that they have covered the previous seven weeks.

- The questions in the homework are mainly consolidation of work covered in previous years and of key skills. However, if there are any topics students are not understanding there are Hegarty Maths video clips to watch that explain that topic. Please see the opposite page for further information.

- In week 7 teachers will be checking that all 4 Hegarty Maths revision templates have been completed. The idea is that these are completed throughout the cycle and not all left until week 7. Please see the 'Revision Guide' document to inform what topics should be covered as part of this revision.

- Alongside completing the tasks in this booklet we also expect students to be making regular use of the Hegarty Maths website for independent study.

  This can be to go over things covered in class, to revise for upcoming tests or to work on areas of weakness that were identified in previous tests.
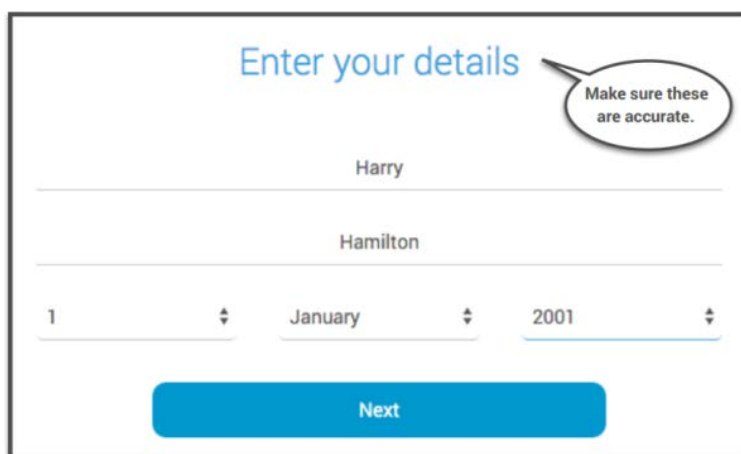
Cycle 1 Homework help

Please use the clip numbers in the table below to look up areas of weakness on the Hegarty Maths website.

Question	Topic	Hegarty Maths clip number
1, 2	Using place value	14
3, 4	Multiplying 2 digit x 2 digit numbers	21
5, 6	Collecting like terms	156, 157
7, 8	Substituting values into formulae	155
9, 10	Rounding to 1 significant figure	130
11, 12	Solve one step equations	178
13, 14	Finding missing terms in sequences	197
15, 16	Expanding brackets	160
17, 18	Metric measure conversions	692
19, 20	Identifying cube and square numbers	99, 100

To log in to Hegarty Maths, go to https://hegartymaths.com/

Click on the green (→] Log in) button and select 'Student Log in'.
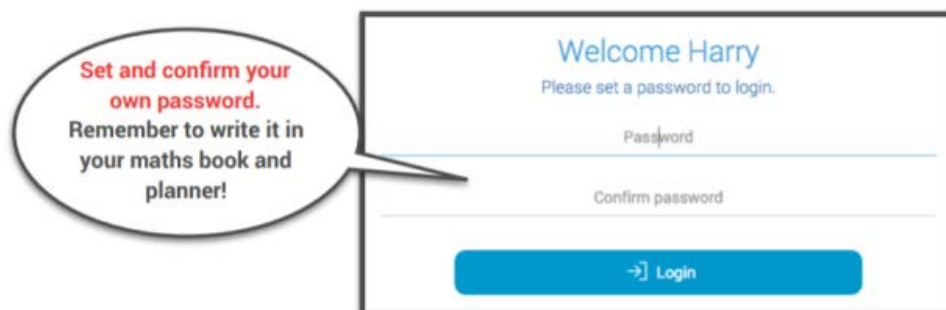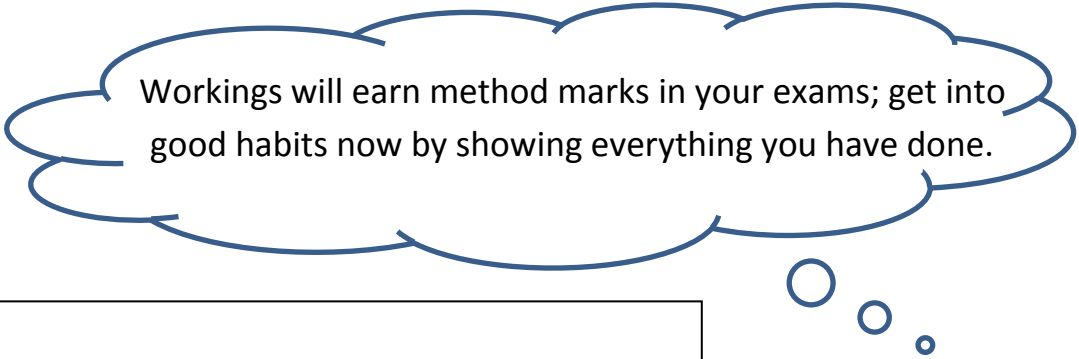

Teachers do not have access to student passwords. If you forget your password please click on 'request a password reset' and speak to your teacher during your next lesson.

Question 1	**Question 2**	**Question 3**	**Question 4**
Work out 90000 + 8000 + 8 + 0.5 + 0.02	Work out 90000 + 2000 + 4 + 0.06 + 0.009	Work out 55 × 15 =	Work out 77 × 34 =
Question 5	**Question 6**	**Question 7**	**Question 8**
Simplify 9a + 2b - 8a - 3b	Simplify 9a + 5b + 7a + 8b	Work out the value of 2b + 6 when b = 9	Work out the value of c - 5 when c = 15
Question 9	**Question 10**	**Question 11**	**Question 12**
Round 213 to 1 significant figure	Round 2270 to 1 significant figure	Solve x ÷ 9 = 11	Solve x - 4 = 3
Question 13	**Question 14**	**Question 15**	**Question 16**
Find the missing terms in the sequence 24, 33, ? , ? , 60,….	Find the missing terms in the sequence 27, ? , 23, ? , 19,….	Expand 3(1 + 11x)	Expand 5(3 - 11x)
Question 17	**Question 18**	**Question 19**	**Question 20**
Complete 140 mm = ….. cm	Complete 39.2 m = ….. cm	What is the 3rd cube number?	What is the 9th square number?

SKILLS CHECK

Score

You must show your workings here:

Workings will earn method marks in your exams; get into good habits now by showing everything you have done.
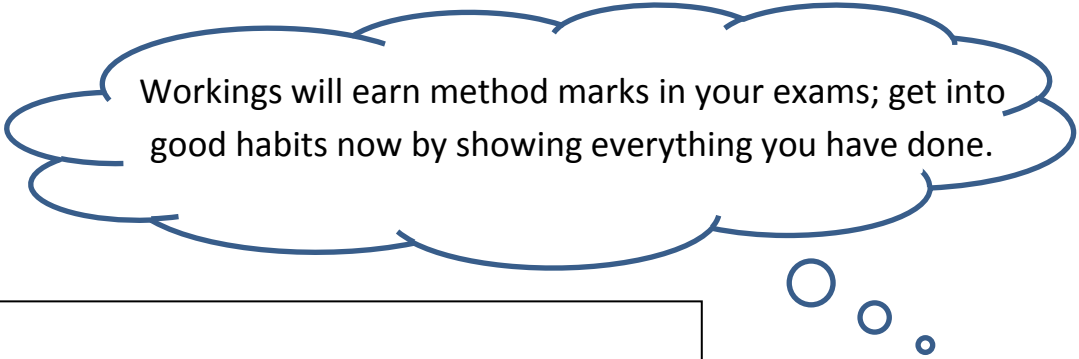
Parent/Carer Comment:

Question 1	**Question 2**	**Question 3**	**Question 4**
Work out 20000 + 4000 + 10 + 0.08 + 0.004	Work out 4000 + 200 + 3 + 0.1 + 0.04	Work out 94 × 69 =	Work out 80 × 66 =
Question 5	**Question 6**	**Question 7**	**Question 8**
Simplify 8a + 3b - 6a - 7b	Simplify 8a + 4b - 3a + 5b	Work out the value of b + 5 when b = 10	Work out the value of x ÷ 9 when x = 18
Question 9	**Question 10**	**Question 11**	**Question 12**
Round 2.36 to 1 significant figure	Round 2.3 to 1 significant figure	Solve x × 10 = 60	Solve x ÷ 9 = 2
Question 13	**Question 14**	**Question 15**	**Question 16**
Find the missing terms in the sequence 33, ? , 29, ? , 25,….	Find the missing terms in the sequence 21, 29, ? , ? , 53,….	Expand 3(11x + 1)	Expand 4(5x - 11)
Question 17	**Question 18**	**Question 19**	**Question 20**
Complete 100 cm = ... m	Complete 650 cm = ... m	What is the 4th cube number?	What is the 4th square number?

SKILLS CHECK

Score [   ]
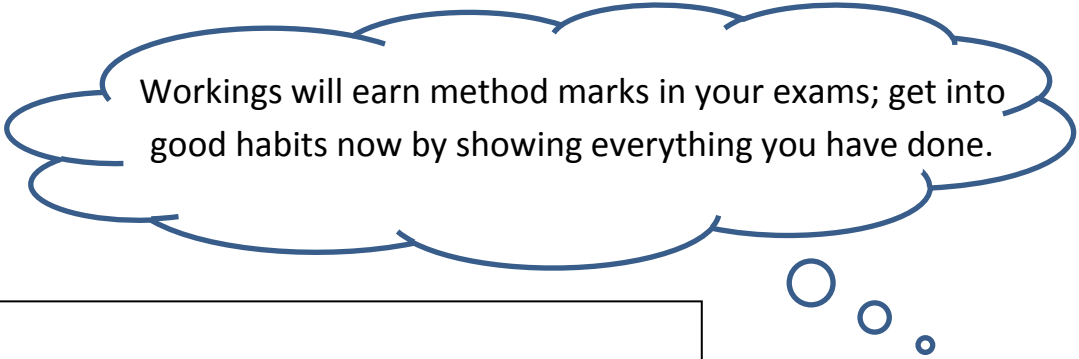
You must show your workings here:

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Parent/Carer Comment:

Question 1 Work out 50000 + 7000 + 900 + 0.09 + 0.003	**Question 2** Work out 9000 + 700 + 50 + 0.01 + 0.003	**Question 3** Work out 25 × 53 =	**Question 4** Work out 52 × 24 =
Question 5 Simplify 5a + 4b + 6a - 5b	**Question 6** Simplify 5a + 3b + 4a - 4b	**Question 7** Work out the value of x - 4 when x = 18	**Question 8** Work out the value of 22 - 2b when b = 5
Question 9 Round 100941 to 1 significant figure	**Question 10** Round 766 to 1 significant figure	**Question 11** Solve x - 6 = 5	**Question 12** Solve x ÷ 5 = 9
Question 13 Find the missing terms in the sequence 33, ? , 25, ? , 17,….	**Question 14** Find the missing terms in the sequence 26, 21, ? , ? , 6,….	**Question 15** Expand 6(2 - 5x)	**Question 16** Expand 3(3 + 5x)
Question 17 Complete 17.2 m = ….. cm	**Question 18** Complete 100 cm = ….. m	**Question 19** What is the 5th square number?	**Question 20** What is the 12th square number?

SKILLS CHECK

Score

You must show your workings here:

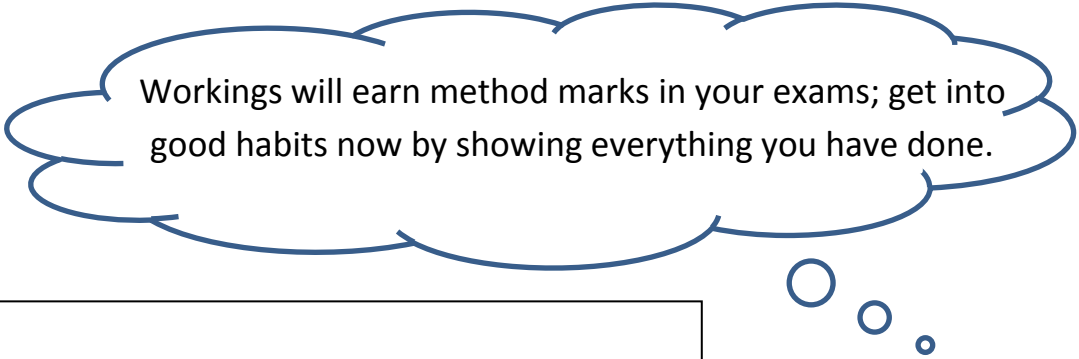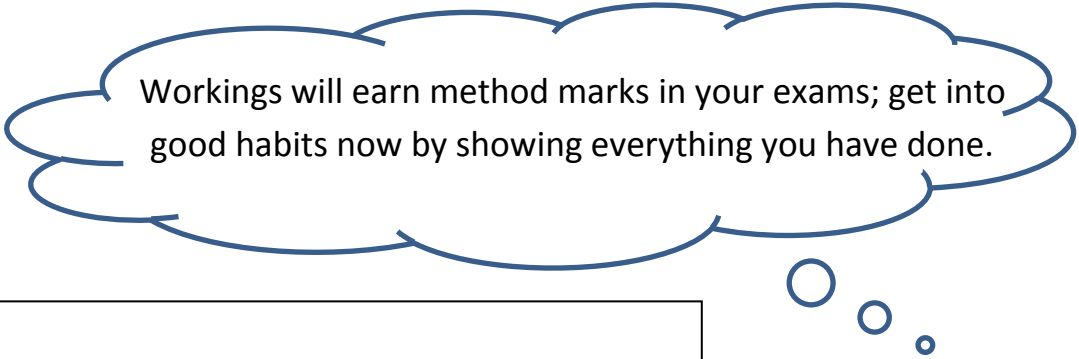Workings will earn method marks in your exams; get into good habits now by showing everything you have done.

Parent/Carer Comment:

Cycle 1 Week 4

Question 1	Question 2	Question 3	Question 4
Work out 200000 + 50000 + 900 + 0.03 + 0.002	Work out 200 + 10 + 7 + 0.9 + 0.01	Work out 69 × 58 =	Work out 83 × 78 =
Question 5 Simplify 8a + 2b + 7a + 5b	**Question 6** Simplify 9a + 5b + 6a + 5b	**Question 7** Work out the value of x - 6 when x = 11	**Question 8** Work out the value of 6b + 5 when b = 7
Question 9 Round 7901 to 1 significant figure	**Question 10** Round 76.8 to 1 significant figure	**Question 11** Solve x ÷ 5 = 11	**Question 12** Solve x ÷ 5 = 5
Question 13 Find the missing terms in the sequence 22, 19, ? , ? , 10,….	**Question 14** Find the missing terms in the sequence ? , 26, 22, ? , 14,….	**Question 15** Expand 2(11 - 2x)	**Question 16** Expand 5(3x - 1)
Question 17 Complete 39.6 m = ….. cm	**Question 18** Complete 13.1 m = ….. cm	**Question 19** What is the 13th square number?	**Question 20** What is the 4th cube number?

SKILLS CHECK

Score

www.mathsbox.org.uk

You must show your workings here:

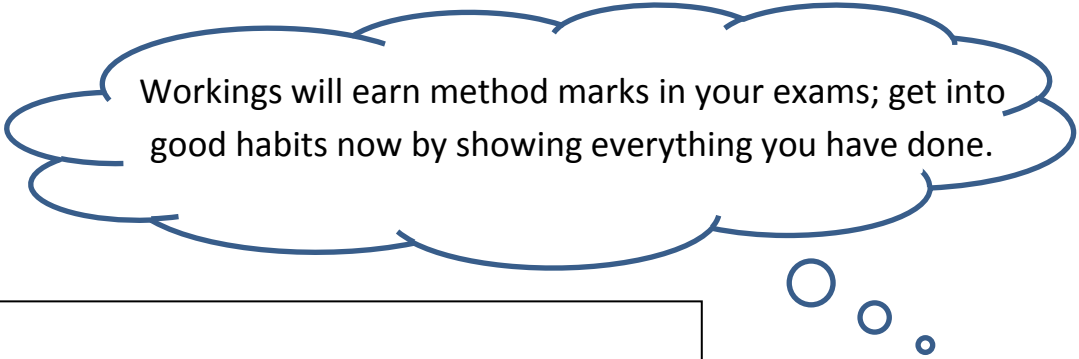Workings will earn method marks in your exams; get into good habits now by showing everything you have done.

Parent/Carer Comment:

Question 1	Question 2	Question 3	Question 4
Work out 400 + 10 + 90 + 0.9 + 0.01	Work out 60000 + 8000 + 40 + 0.06 + 0.002	Work out 53 × 61 =	Work out 93 × 61 =
Question 5 Simplify 6a + 3b + 8a - 5b	**Question 6** Simplify 6a + 2b + 7a + 7b	**Question 7** Work out the value of 3x + 9 when x = 4	**Question 8** Work out the value of 2x - 8 when x = 5
Question 9 Round 101.5 to 1 significant figure	**Question 10** Round 47895.4 to 1 significant figure	**Question 11** Solve x × 7 = 49	**Question 12** Solve x + 7 = 18
Question 13 Find the missing terms in the sequence 34, ? , 28, ? , 22,….	**Question 14** Find the missing terms in the sequence ? , 35, 43, ? , 59,….	**Question 15** Expand 6(7 + 11x)	**Question 16** Expand 3(3 + 5x)
Question 17 Complete 10500 m = ….. km	**Question 18** Complete 160 mm = ….. cm	**Question 19** What is the 3rd cube number?	**Question 20** What is the 2nd cube number?

SKILLS CHECK

Score

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Parent/Carer Comment:

Question 1 Work out 20000 + 8000 + 400 + 0.02 + 0.001	**Question 2** Work out 9000 + 200 + 2 + 0.5 + 0.08	**Question 3** Work out 34 × 51 =	**Question 4** Work out 40 × 40 =
Question 5 Simplify 5a + 5b - 6a + 8b	**Question 6** Simplify 6a + 3b - 5a - 8b	**Question 7** Work out the value of y ÷ 10 when y = 50	**Question 8** Work out the value of 12 - c when c = 8
Question 9 Round 12882 to 1 significant figure	**Question 10** Round 47424 to 1 significant figure	**Question 11** Solve x + 6 = 15	**Question 12** Solve x - 6 = 2
Question 13 Find the missing terms in the sequence ? , 33, 41, ? , 57,….	**Question 14** Find the missing terms in the sequence 18, ? , 36, ? , 54,….	**Question 15** Expand 2(7x - 1)	**Question 16** Expand 6(5x + 2)
Question 17 Complete 15 m = ….. cm	**Question 18** Complete 170 mm = ….. cm	**Question 19** What is the 4th square number?	**Question 20** What is the 5th cube number?

SKILLS CHECK

Score

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Parent/Carer Comment:

Revision – Week 7

In Week 7 we will collect 4 pages of revision.
These can be completed at any time during the cycle, but they will all be checked in Week 7.
Please plan your time carefully so that you meet this deadline.

You should choose topics from the list opposite which details what has been covered during this cycle.

Getting in to good revision habits is vital for success in GCSE maths.

Revision is most effective when it involves 'doing' – this approach is proven to aid retention and recall of information. This is why we are asking that you;

- Take notes from the videos on Hegarty Maths, writing down key information and examples.

- Write down your workings out for each quiz that you complete and mark this as you go, noting corrections for any questions that you got wrong.

- Record your quiz score and rate your confidence level.

If you can make the above a habit revision will be much easier for you when you are preparing for exams. We have provided an example of what good revision looks like.

Hegarty Maths also tracks everything that you do, so if you complete lots of revision from Y7 then by the time you get to Y11 it will be able to tell you your weaknesses; these can then form a big part of your final revision plan. The 'Fix Up 5' feature will give you questions and support on these.

As ever, if you have any questions please see your teacher well before the deadline.

Cycle 1 – Revision Guide

		☺ ☺ ☹	Hegarty Maths Clip Number(s)
	Topic		
UNIT 1			
1	Primes		28
2	Factors		29
3	Factor Tree and Index Form		30
4	Venn Diagram		379
5	HCF/LCM		32, 35
6	Rounding Significant Figure		130
7	Standard Form		122, 123
UNIT 2			
1	Calculations with negative numbers		41
2	Convert mixed-improper fractions		63, 64
3	Calculations with fractions		65, 66, 68, 70
4	Substitution		155, 278
5	BIDMAS		24, 120
UNIT 3			
1	Measure lines and angles		458, 461
2	Enlarge using scale factor		609, 642, 644
3	Enlarge from COE		643
4	Elevations		
5	Scale Conversions		679
UNIT 4			
1	Express Probability in Words		349
2	Probability Scale		350
3	Theoretical Probability		351, 352
4	Experimental Probability		356
5	Two way tables		359, 423
6	Probability Tree		361

Hegarty Maths Revision

Topic: 30 : Prime Factorisation 2	Have you checked through the required 'Building Blocks'? ☑ 29

Notes from the video:

Any composite number can be uniquely expressed as a product of primes. Product means times/multiply.

Prime numbers 2, 3, 5, 7, 11, 13, 17, 19, ...

Divisibility tests   Divisible by 2   number ends in 0, 2, 4, 6, 8
                              Divisible by 3   sum of digits is divisible by 3
                              Divisible by 5   ends in 0, 5

Write 140 as a product of primes
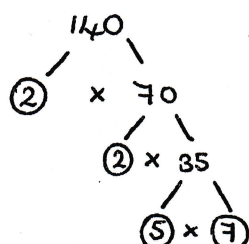
$140 = 2 \times 2 \times 5 \times 7$

in index form

$140 = 2^2 \times 5 \times 7$

Quiz questions (showing workings and marking work as you go):

1. $125 = 5^3$ ✓
2. $81 = 3^4$ ✓
3. $72 = 2^3 \times 3^2$ ✓
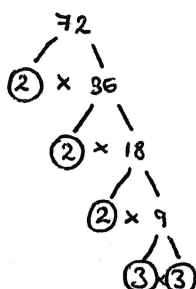
Use X on online keyboard not letter x

4. $200 = 2^3 \times 5^2$ ✓
5. $24 = 2^3 \times 3$ ✓

6. $12 = 2^2 \times 3$ ✓
7. $20 = 2^2 \times 5$ ✓
8. $48 = 2^4 \times 3$ ✓
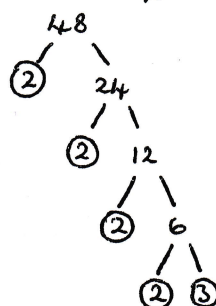
9. $168 = 2^3 \times 3 \times 7$ ✓
10. $36 = 2^2 \times 3^2$ ✓
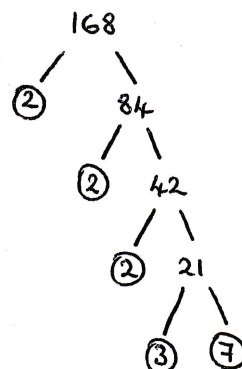
Quiz score: 100 %	My confidence level: ☺ ☺ ☹

Hegarty Maths Revision

Topic:	Have you checked through the required 'Building Blocks'? ☐
Notes from the video:	
Quiz questions (showing workings and marking work as you go):	
Quiz score: %	My confidence level: ☺ ☺ ☹

Remember to see your teacher if you have watched the video on Hegarty Maths and still do not understand.

Hegarty Maths Revision

Topic:	Have you checked through the required 'Building Blocks'? ☐
Notes from the video:	
Quiz questions (showing workings and marking work as you go):	
Quiz score: %	My confidence level: ☺ ☺ ☹

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Hegarty Maths Revision

Topic:	Have you checked through the required 'Building Blocks'? ☐
Notes from the video:	
Quiz questions (showing workings and marking work as you go):	
Quiz score: %	My confidence level: ☺ ☺ ☹

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Hegarty Maths Revision

Topic:	Have you checked through the required 'Building Blocks'? ☐
Notes from the video:	
Quiz questions (showing workings and marking work as you go):	
Quiz score: %	My confidence level: ☺ ☺ ☹

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