

WCSA

# Mathematics

Home Learning Book – Learning Cycle 1



**Mathematics Year 9 Sets 5 & 6**

Name: \_\_\_\_\_ Tutor Group: \_\_\_\_\_

Maths Teacher(s): \_\_\_\_\_

## Learning Cycle 1

		Cycle.Week					
<b>Sep 2018</b>	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
<b>Oct 2018</b>	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
<b>Nov 2018</b>	1.7	5	6	7	8	9	Week 7 Hegarty Revision due (x4)
	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.

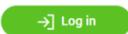
This can be to go over things covered in class, to revise for upcoming tests or to work on areas of weakness that were identified in previous tests.

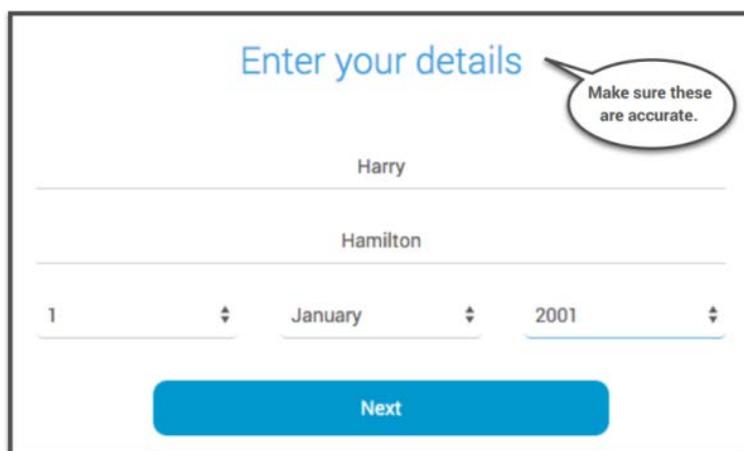
## Cycle 1 Homework help

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	Read and write numbers up to 10000000	13
3, 4	Identifying the factors of a number	27
5, 6	Multiplying by 10, 100, 1000	15
7, 8	Simplifying fractions	61
9, 10	Calculating 25%, 50%, 75% of a quantity	84
11, 12	Rounding to the nearest 10 or 100	17
13, 14	Multiplying a 2 or 3 digit x 1 digit number	10
15, 16	Simplifying expressions by collecting like terms	156, 157
17, 18	Adding large numbers	18
19, 20	BIDMAS	24, 44

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

Click on the green  button and select 'Student Log in'.



Enter your details

Make sure these are accurate.

Harry

Hamilton

1 January 2001

Next



Welcome Harry

Please set a password to login.

Password

Confirm password

Login

Set and confirm your own password. Remember to write it in your maths book and planner!

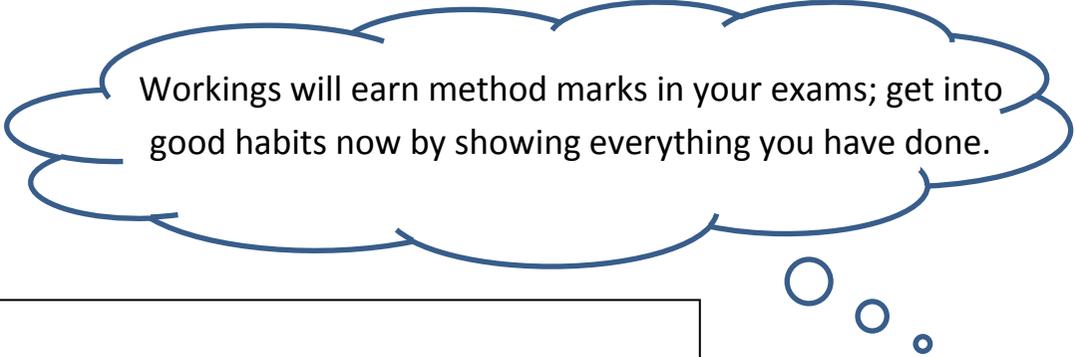
Teachers do not have access to student passwords. If you forget your password please click on 'request a password reset' and speak to your teacher during your next lesson.

<p><b>Question 1</b> Write in figures : thirteen thousand, five hundred and two units</p>	<p><b>Question 2</b> Write in figures : seventy seven thousand, eight tens and three units</p>	<p><b>Question 3</b> List the factors of 51</p>	<p><b>Question 4</b> List the factors of 36</p>
<p><b>Question 5</b> Work out <math>7 \times 10 =</math></p>	<p><b>Question 6</b> Work out <math>10 \times 10 =</math></p>	<p><b>Question 7</b> Simplify <math>\frac{8}{16}</math></p>	<p><b>Question 8</b> Simplify <math>\frac{12}{42}</math></p>
<p><b>Question 9</b> Find 50% of £180</p>	<p><b>Question 10</b> Find 25% of £120</p>	<p><b>Question 11</b> Round 2084 to the nearest 100</p>	<p><b>Question 12</b> Round 3372 to the nearest 10</p>
<p><b>Question 13</b> Work out <math>86 \times 8 =</math></p>	<p><b>Question 14</b> Work out <math>630 \times 9 =</math></p>	<p><b>Question 15</b> Simplify <math>5c + 5c + 6c</math></p>	<p><b>Question 16</b> Simplify <math>10a + 2b + 8a + 7b</math></p>
<p><b>Question 17</b> Work out <math>39253 + 15736 =</math></p>	<p><b>Question 18</b> Work out <math>30730 + 18364 =</math></p>	<p><b>Question 19</b> Work out <math>8 \times 2 - 5</math></p>	<p><b>Question 20</b> Work out <math>6 + 11 \times 3</math></p>

# 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.

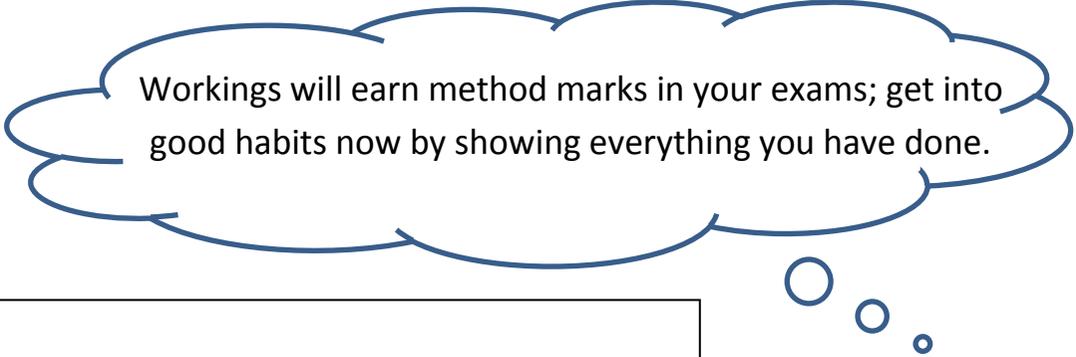
Parent/Carer Comment:

<p><b>Question 1</b> Write in figures : six thousand, four tens and six units</p>	<p><b>Question 2</b> Write in figures : One hundred and twenty six thousand, nine tens and three units</p>	<p><b>Question 3</b> List the factors of 30</p>	<p><b>Question 4</b> List the factors of 20</p>
<p><b>Question 5</b> Work out <math>306 \times 1000 =</math></p>	<p><b>Question 6</b> Work out <math>34 \times 1000 =</math></p>	<p><b>Question 7</b> Simplify <math>\frac{20}{70}</math></p>	<p><b>Question 8</b> Simplify <math>\frac{18}{63}</math></p>
<p><b>Question 9</b> Find 75% of £720</p>	<p><b>Question 10</b> Find 75% of £500</p>	<p><b>Question 11</b> Round 6199 to the nearest 100</p>	<p><b>Question 12</b> Round 2096 to the nearest 1000</p>
<p><b>Question 13</b> Work out <math>77 \times 9 =</math></p>	<p><b>Question 14</b> Work out <math>397 \times 6 =</math></p>	<p><b>Question 15</b> Simplify <math>9x + 4x - 3x</math></p>	<p><b>Question 16</b> Simplify <math>10a + 3b + 7a + 6b</math></p>
<p><b>Question 17</b> Work out <math>37959 + 32050 =</math></p>	<p><b>Question 18</b> Work out <math>24509 + 19451 =</math></p>	<p><b>Question 19</b> Work out <math>5 \times 2 + 2</math></p>	<p><b>Question 20</b> Work out <math>5 \times 4 + 3</math></p>

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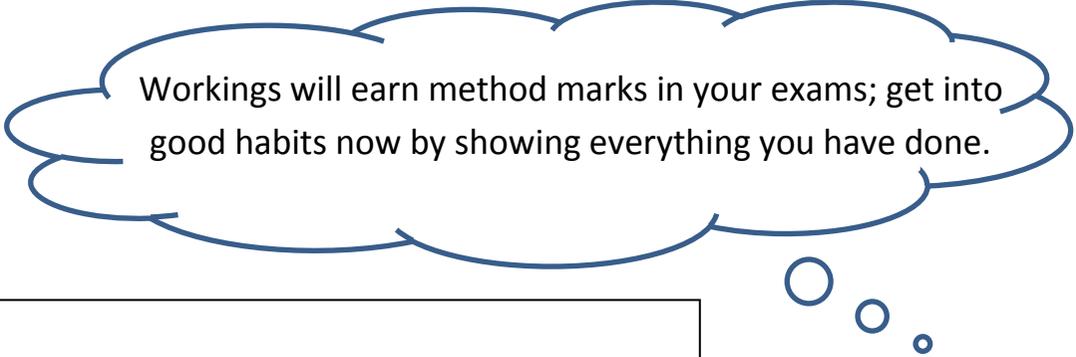
Parent/Carer Comment:

<b>Question 1</b> Write in figures : fifteen thousand, six hundred and three units	<b>Question 2</b> Write in figures : six thousand, seven hundred and nine units	<b>Question 3</b> List the factors of 42	<b>Question 4</b> List the factors of 38
<b>Question 5</b> Work out $734 \times 10 =$	<b>Question 6</b> Work out $49 \times 100 =$	<b>Question 7</b> Simplify $\frac{24}{36}$	<b>Question 8</b> Simplify $\frac{5}{25}$
<b>Question 9</b> Find 50% of £520	<b>Question 10</b> Find 25% of £580	<b>Question 11</b> Round 4789 to the nearest 100	<b>Question 12</b> Round 8671 to the nearest 10
<b>Question 13</b> Work out $74 \times 9 =$	<b>Question 14</b> Work out $493 \times 3 =$	<b>Question 15</b> Simplify $5x - 4x - 6x$	<b>Question 16</b> Simplify $8a + 4b + 6a + 6b$
<b>Question 17</b> Work out $22960 + 20143 =$	<b>Question 18</b> Work out $16489 + 8932 =$	<b>Question 19</b> Work out $29 - 11 \times 4$	<b>Question 20</b> Work out $2 \times 2 + 5$

**SKILLS CHECK**

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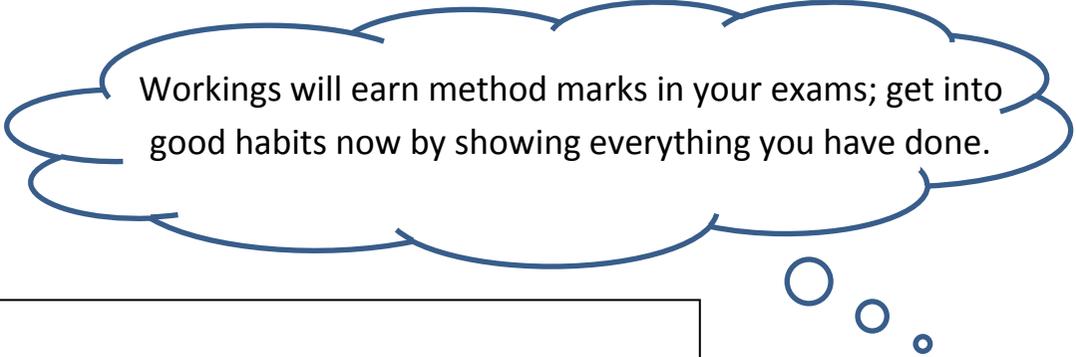
Parent/Carer Comment:

<p><b>Question 1</b> Write in figures : sixty nine thousand, nine tens and three units</p>	<p><b>Question 2</b> Write in figures : eleven thousand, three hundred and five units</p>	<p><b>Question 3</b> List the factors of 56</p>	<p><b>Question 4</b> List the factors of 57</p>
<p><b>Question 5</b> Work out <math>572 \times 1000 =</math></p>	<p><b>Question 6</b> Work out <math>411 \times 10 =</math></p>	<p><b>Question 7</b> Simplify <math>\frac{48}{50}</math></p>	<p><b>Question 8</b> Simplify <math>\frac{12}{60}</math></p>
<p><b>Question 9</b> Find 75% of £760</p>	<p><b>Question 10</b> Find 25% of £400</p>	<p><b>Question 11</b> Round 3113 to the nearest 10</p>	<p><b>Question 12</b> Round 407 to the nearest 10</p>
<p><b>Question 13</b> Work out <math>52 \times 7 =</math></p>	<p><b>Question 14</b> Work out <math>393 \times 2 =</math></p>	<p><b>Question 15</b> Simplify <math>6b + 3b + 8b</math></p>	<p><b>Question 16</b> Simplify <math>5a + 5b + 4a + 5b</math></p>
<p><b>Question 17</b> Work out <math>48625 + 12323 =</math></p>	<p><b>Question 18</b> Work out <math>13416 + 6573 =</math></p>	<p><b>Question 19</b> Work out <math>7 \times 2 - 4</math></p>	<p><b>Question 20</b> Work out <math>9 \times 2 - 5</math></p>

# SKILLS CHECK

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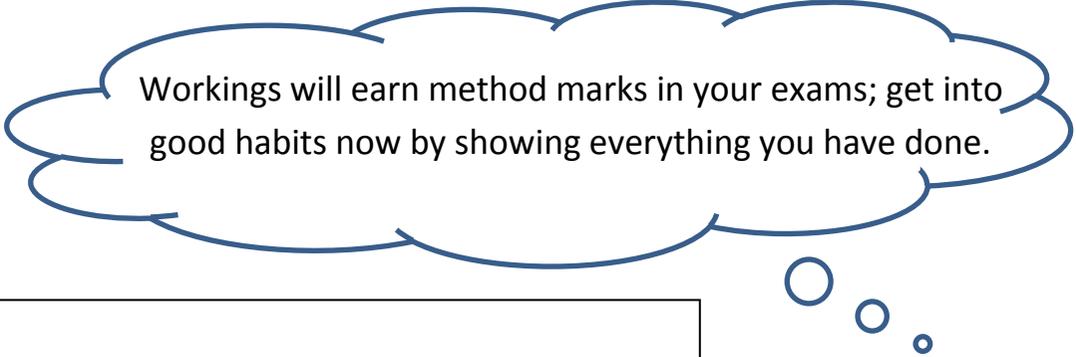
Parent/Carer Comment:

<b>Question 1</b> Write in figures : nineteen thousand, eight hundred and three units	<b>Question 2</b> Write in figures : six thousand, eight tens and eight units	<b>Question 3</b> List the factors of 99	<b>Question 4</b> List the factors of 28
<b>Question 5</b> Work out $96 \times 10 =$	<b>Question 6</b> Work out $31 \times 100 =$	<b>Question 7</b> Simplify $\frac{6}{33}$	<b>Question 8</b> Simplify $\frac{6}{42}$
<b>Question 9</b> Find 50% of £880	<b>Question 10</b> Find 50% of £360	<b>Question 11</b> Round 3291 to the nearest 10	<b>Question 12</b> Round 1928 to the nearest 100
<b>Question 13</b> Work out $86 \times 6 =$	<b>Question 14</b> Work out $171 \times 2 =$	<b>Question 15</b> Simplify $7y - 4y - 5y$	<b>Question 16</b> Simplify $8a + 4b + 5a + 3b$
<b>Question 17</b> Work out $12389 + 9125 =$	<b>Question 18</b> Work out $29494 + 3633 =$	<b>Question 19</b> Work out $34 - 3 \times 4$	<b>Question 20</b> Work out $21 - 5 \times 2$

**SKILLS CHECK**

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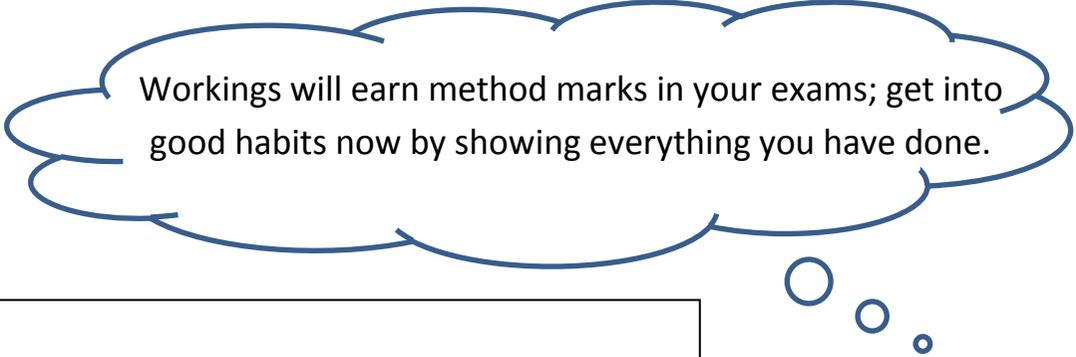
Parent/Carer Comment:

<b>Question 1</b> Write in figures : four thousand, four tens and seven units	<b>Question 2</b> Write in figures : twenty thousand, nine hundred and two units	<b>Question 3</b> List the factors of 48	<b>Question 4</b> List the factors of 36
<b>Question 5</b> Work out $472 \times 100 =$	<b>Question 6</b> Work out $58 \times 10 =$	<b>Question 7</b> Simplify $\frac{5}{25}$	<b>Question 8</b> Simplify $\frac{9}{15}$
<b>Question 9</b> Find 75% of £580	<b>Question 10</b> Find 75% of £420	<b>Question 11</b> Round 3986 to the nearest 100	<b>Question 12</b> Round 6369 to the nearest 1000
<b>Question 13</b> Work out $28 \times 8 =$	<b>Question 14</b> Work out $750 \times 5 =$	<b>Question 15</b> Simplify $9c - 3c + 4c$	<b>Question 16</b> Simplify $9a + 5b + 6a + 3b$
<b>Question 17</b> Work out $30099 + 18635 =$	<b>Question 18</b> Work out $44233 + 37259 =$	<b>Question 19</b> Work out $4 \times 5 - 5$	<b>Question 20</b> Work out $3 \times 3 - 5$

**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

	Topic	😊 😐 😞	Hegarty Maths Clip Number(s)
<b>UNIT 1a</b>			
1	Order positive and negative numbers, including decimals		14, 37, 46
2	Add, subtract, multiply and divide positive and negative numbers		18, 19, 39, 40, 42, 43
3	Recall multiplication and division facts		10
4	Multiply and divide by powers of 10		15
5	Recall and apply BIDMAS		24
6	Round to the nearest 10, 100 or 1000		17
<b>UNIT 1b</b>			
1	Decimal notation and place value		13, 45
2	Compare and order decimals		46
3	Add, subtract, multiply and divide decimals		47-49
4	Multiply and divide by a number between 0 and 1		48, 50
5	Round to the nearest integer, decimal places or significant figures		56, 130
6	Estimate calculations		131
7	Similar calculations		135
<b>UNIT 1c</b>			
1	Evaluate powers and roots		99-101
2	Recall cubes numbers		100
3	Evaluate expressions involving powers and roots		99-101
4	Index notation for powers of 10		121
5	Simplify using the laws of indices		105-106
6	BIDMAS including powers		24, 44, 120
<b>UNIT 1d</b>			
1	Place value and types of number		13, 25
2	Factors, multiples and primes		27, 28, 33
3	Product of prime factors		29-30
4	Common factors and multiples		31, 32, 34, 35
5	HCF and LCM		31, 32, 34, 35
6	HCF an LCM from prime factors		36

## Hegarty Maths Revision

<b>Topic:</b> 30 : Prime Factorisation 2	Have you checked through the required 'Building Blocks'? <input checked="" type="checkbox"/> 29
<b>Notes from the video:</b> 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 <div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center;"> <math display="block">  \begin{array}{c}  140 \\  / \quad \backslash \\  (2) \quad \times \quad 70 \\  \quad \quad / \quad \backslash \\  \quad \quad (2) \quad \times \quad 35 \\  \quad \quad \quad / \quad \backslash \\  \quad \quad \quad (5) \quad \times \quad (7)  \end{array}  </math> </div> <div style="margin-left: 20px;"> <math>140 = 2 \times 2 \times 5 \times 7</math>            in index form  <math>140 = 2^2 \times 5 \times 7</math> </div> </div>	
<b>Quiz questions (showing workings and marking work as you go):</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <p>1. <math>125 = 5^3</math> ✓</p> <p>2. <math>81 = 3^4</math> ✓</p> <p>3. <math>72 = 2^3 \times 3^2</math> ✓</p> <div style="text-align: center;"> <math display="block">  \begin{array}{c}  72 \\  / \quad \backslash \\  (2) \quad \times \quad 36 \\  \quad \quad / \quad \backslash \\  \quad \quad (2) \quad \times \quad 18 \\  \quad \quad \quad / \quad \backslash \\  \quad \quad \quad (2) \quad \times \quad 9 \\  \quad \quad \quad \quad / \quad \backslash \\  \quad \quad \quad \quad (3) \quad (3)  \end{array}  </math> </div> <div style="border: 1px solid black; border-radius: 50%; padding: 5px; width: fit-content; margin: 10px auto;">             Use X on online keyboard not letter x           </div> </div> <div style="width: 50%;"> <p>6. <math>12 = 2^2 \times 3</math> ✓</p> <p>7. <math>20 = 2^2 \times 5</math> ✓</p> <p>8. <math>48 = 2^4 \times 3</math> ✓</p> <div style="text-align: center;"> <math display="block">  \begin{array}{c}  48 \\  / \quad \backslash \\  (2) \quad \times \quad 24 \\  \quad \quad / \quad \backslash \\  \quad \quad (2) \quad \times \quad 12 \\  \quad \quad \quad / \quad \backslash \\  \quad \quad \quad (2) \quad \times \quad 6 \\  \quad \quad \quad \quad / \quad \backslash \\  \quad \quad \quad \quad (2) \quad (3)  \end{array}  </math> </div> </div> <div style="width: 50%;"> <p>9. <math>168 = 2^3 \times 3 \times 7</math> ✓</p> <p>10. <math>36 = 2^2 \times 3^2</math> ✓</p> <div style="text-align: center;"> <math display="block">  \begin{array}{c}  168 \\  / \quad \backslash \\  (2) \quad \times \quad 84 \\  \quad \quad / \quad \backslash \\  \quad \quad (2) \quad \times \quad 42 \\  \quad \quad \quad / \quad \backslash \\  \quad \quad \quad (2) \quad \times \quad 21 \\  \quad \quad \quad \quad / \quad \backslash \\  \quad \quad \quad \quad (3) \quad (7)  \end{array}  </math> </div> </div> </div> <p>4. <math>200 = 2^3 \times 5^2</math> ✓</p> <p>5. <math>24 = 2^3 \times 3</math> ✓</p>	
<b>Quiz score:</b> <div style="text-align: center; font-size: 1.2em;">100 %</div>	<b>My confidence level:</b> <div style="display: flex; justify-content: center; align-items: center; gap: 10px;"> <span style="font-size: 1.5em;">😊</span> <span style="font-size: 1.5em;">😐</span> <span style="font-size: 1.5em;">😞</span> </div>

## Hegarty Maths Revision

**Checklist:** 1. Watched video and taken notes; 2. Completed the quiz, writing down your workings and score; 3. Completed the 'My confidence level' section.

Topic:	Have you checked through the required 'Building Blocks'? <input type="checkbox"/>
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.*

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