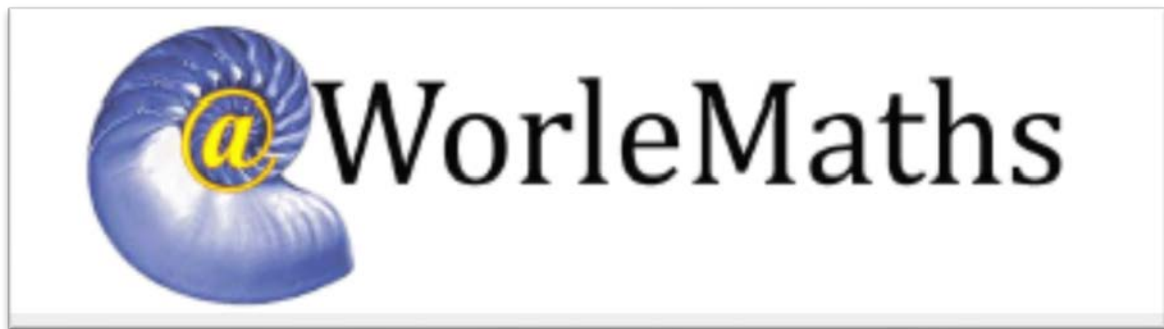


Mathematics

Home Learning Book – Learning Cycle 1



Mathematics Year 9 Set 4

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 (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.

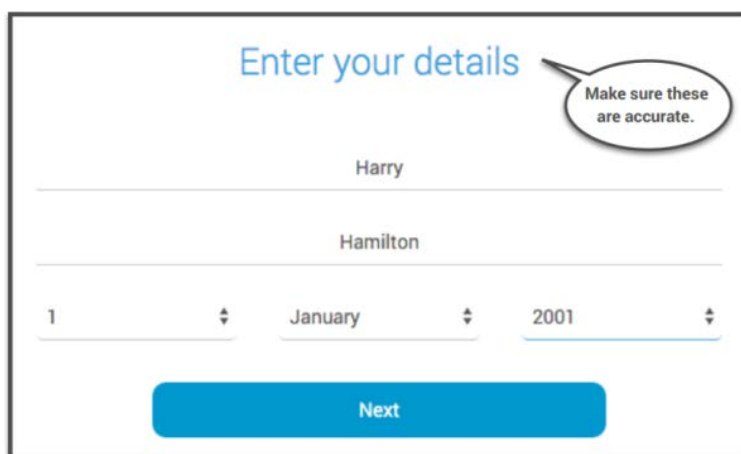
Cycle 1 Homework help

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	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  button and select 'Student Log in'.



Enter your details

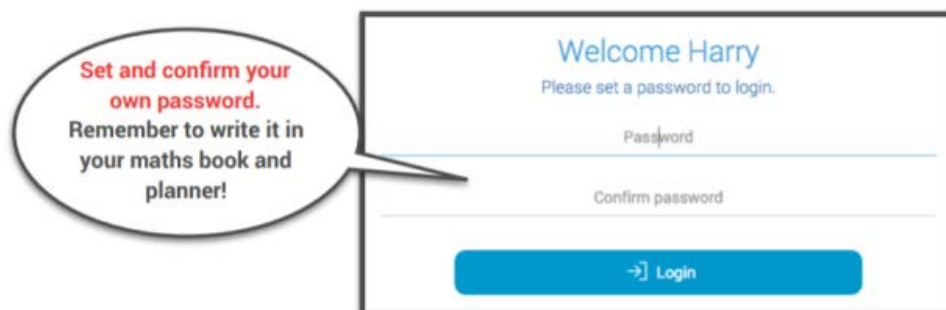
Make sure these are accurate.

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!

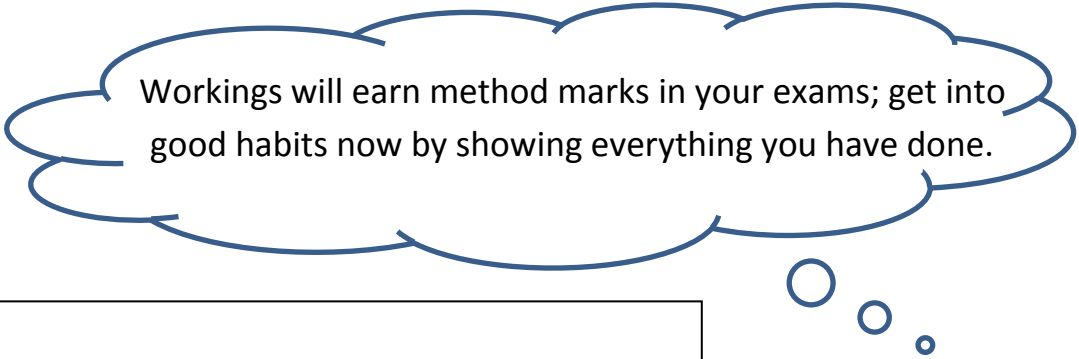
Teachers do not have access to student passwords. If you forget your password please click on 'request a password reset' and speak to your teacher during your next lesson.

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

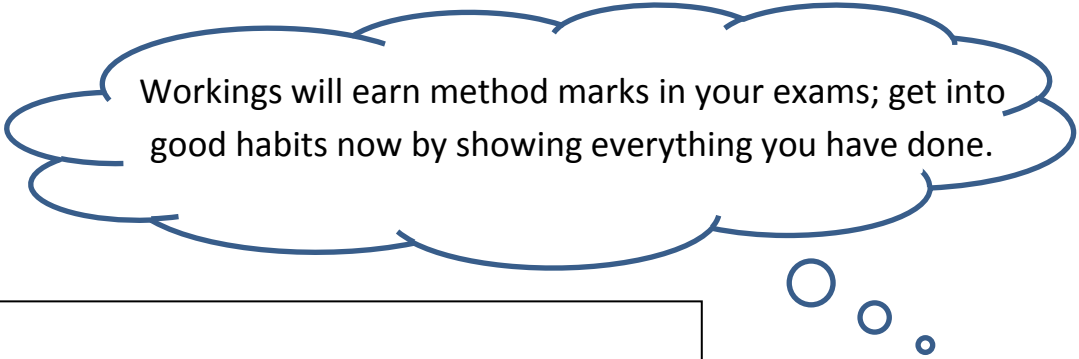
Parent/Carer Comment:

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

SKILLS CHECK

Score

You must show your workings here:

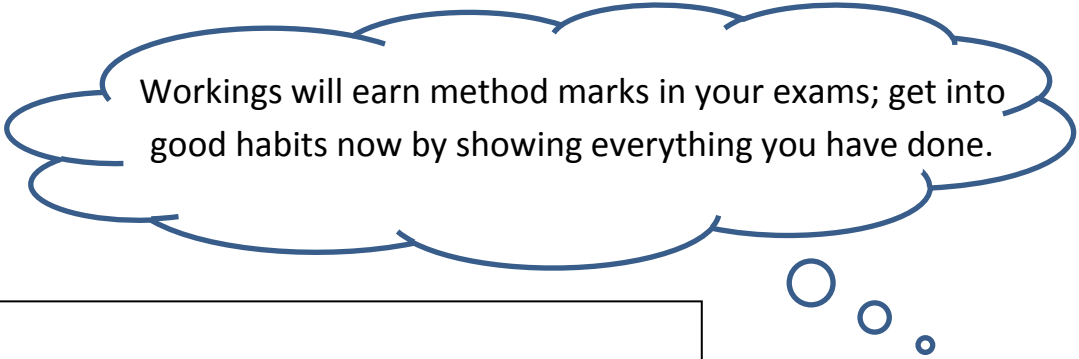


Workings will earn method marks in your exams; get into good habits now by showing everything you have done.

Parent/Carer Comment:

Question 1 Work out $50000 + 7000 + 900 + 0.09 + 0.003$	Question 2 Work out $9000 + 700 + 50 + 0.01 + 0.003$	Question 3 Work out $25 \times 53 =$	Question 4 Work out $52 \times 24 =$
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 $x \div 5 = 9$
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 $17.2 \text{ m} = \dots \text{ cm}$	Question 18 Complete $100 \text{ cm} = \dots \text{ m}$	Question 19 What is the 5th square number?	Question 20 What is the 12th square number?

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.

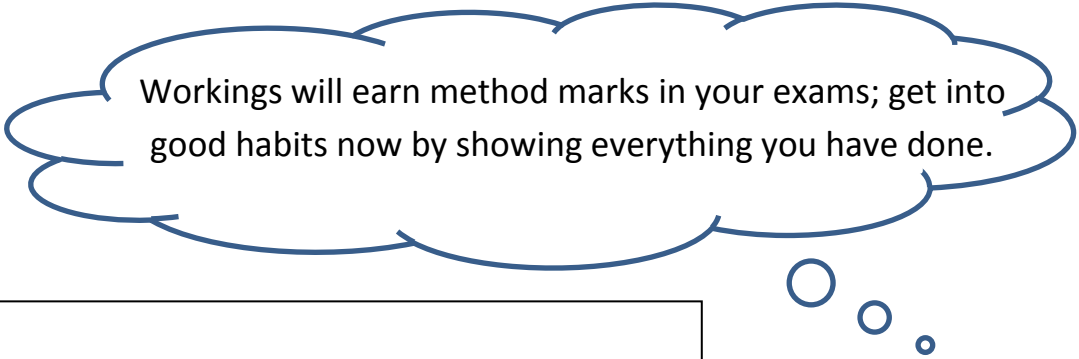
Parent/Carer Comment:

Question 1 Work out $200000 + 50000 + 900 + 0.03 + 0.002$	Question 2 Work out $200 + 10 + 7 + 0.9 + 0.01$	Question 3 Work out $69 \times 58 =$	Question 4 Work out $83 \times 78 =$
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 $x \div 5 = 11$	Question 12 Solve $x \div 5 = 5$
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 $39.6 \text{ m} = \dots \text{ cm}$	Question 18 Complete $13.1 \text{ m} = \dots \text{ cm}$	Question 19 What is the 13th square number?	Question 20 What is the 4th cube number?

SKILLS CHECK

Score

You must show your workings here:

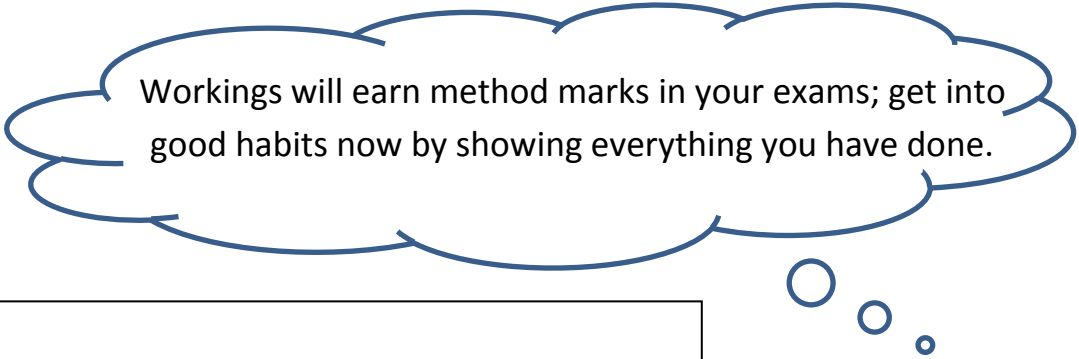


Workings will earn method marks in your exams; get into good habits now by showing everything you have done.

Parent/Carer Comment:

Question 1 Work out $400 + 10 + 90 + 0.9 + 0.01$	Question 2 Work out $60000 + 8000 + 40 + 0.06 + 0.002$	Question 3 Work out $53 \times 61 =$	Question 4 Work out $93 \times 61 =$
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 $x \times 7 = 49$	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 $10500 \text{ m} = \dots \text{ km}$	Question 18 Complete $160 \text{ mm} = \dots \text{ cm}$	Question 19 What is the 3rd cube number?	Question 20 What is the 2nd cube number?

You must show your workings here:



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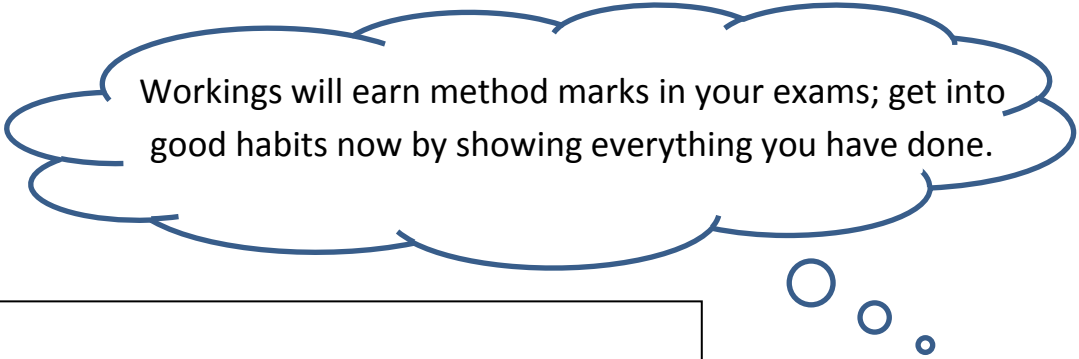
Parent/Carer Comment:

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 $34 \times 51 =$	Question 4 Work out $40 \times 40 =$
Question 5 Simplify $5a + 5b - 6a + 8b$	Question 6 Simplify $6a + 3b - 5a - 8b$	Question 7 Work out the value of $y \div 10$ 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 $?, 33, 41, ?, 57, \dots$	Question 14 Find the missing terms in the sequence $18, ?, 36, ?, 54, \dots$	Question 15 Expand $2(7x - 1)$	Question 16 Expand $6(5x + 2)$
Question 17 Complete $15 \text{ m} = \dots \text{ cm}$	Question 18 Complete $170 \text{ mm} = \dots \text{ cm}$	Question 19 What is the 4th square number?	Question 20 What is the 5th cube number?

SKILLS CHECK

Score

You must show your workings here:



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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)
UNIT 1a			
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
UNIT 1b			
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
UNIT 1c			
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
UNIT 1d			
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

Topic: 30 : Prime Factorisation 2	Have you checked through the required 'Building Blocks'? <input checked="" type="checkbox"/> 29
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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

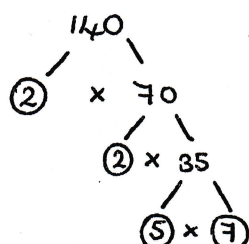
Divisible by 3

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

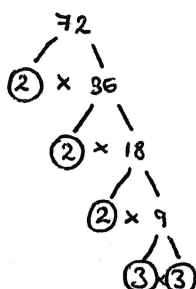
$$140 = 2^2 \times 5 \times 7$$

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

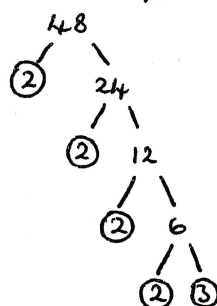
4. $200 = 2^3 \times 5^2$ ✓

5. $24 = 2^3 \times 3$ ✓

6. $12 = 2^2 \times 3$ ✓

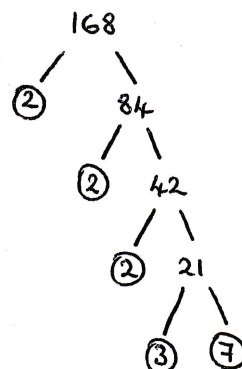
7. $20 = 2^2 \times 5$ ✓

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




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.

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.

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Notes from the video:	
Quiz questions (showing workings and marking work as you go):	
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Hegarty Maths Revision




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Notes from the video:	
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Hegarty Maths Revision

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Notes from the video:	
Quiz questions (showing workings and marking work as you go):	
Quiz score: %	My confidence level:   

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