

Benjamin Britten Academy of Music and Mathematics

MATHEMATICS HOMEWORK BOOKLET

Year 7 Book B
AUTUMN TERM



NAME:



How does it work?

- One homework will be set a week
- The set and due date for each homework will be written on this page
- Some homework will need completing on this booklet, others on the internet
- If you need help logging onto a website, you need to see your class teacher
- If you need help with the homework task, you must speak to your teacher before the due date

CONTENTS

WEEK	HOMEWORK TITLE
1	NUMERACY
2	ODD AND EVEN
3	RESEARCH TASK
4	MATHSWATCH
5	NUMERACY
6	ADD AND SUBSTRACT
7	MATHSWATCH
8	NUMERACY
9	ANALOGUE CLOCK
10	RESEARCH TASK
11	MATHSWATCH
12	NUMERACY
13	PERIMETER
14	MATHSWATCH

Mathswatch log in details:

Below are the log in instructions you will need in order to access and complete some of the homework tasks in this booklet.

Username—firstnamelastname@benjamin

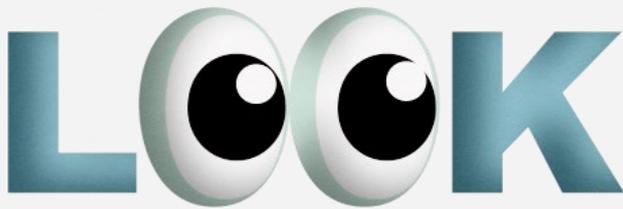
Password—your DOB (format: monthDYYYY)

Completing your homework

All homework tasks need to be completed in this booklet or on a specific website.

There are also **answers** for all booklet tasks at the back of the booklet. Part of your homework task each week is to **mark your work**. Make sure you mark all your answers in another colour pen, making any corrections if you need to.

Remember - if you need help, you must speak to your teacher **before** the due date.

The word "LOOK" is written in a stylized, blue, sans-serif font. The two 'O's are replaced by large, white, 3D-rendered eyes with black pupils and white highlights, giving the word a face-like appearance.

If you see the logo above next to a task, you can type the clip number into Mathswatch for extra help!

Watch the video and make notes, then try the homework task again. If you still need help, then speak to your maths teacher at school.





HOMWORK 1: NUMERACY

MENTAL STRATEGIES -
do these in your head

TIMESTABLES -
do these in your head

Literacy challenge – **Missing vowels!**

Below are 3 keywords in maths, but the vowels are missing. Can you fill the blanks?

_ DD _ T _ _ N

M _ LT _ PL _ C _ T _ _ N

_ R _ THM _ T _ C

×	6	7	3	8	5	4
5						
3						
7						
4						
6						
8						

Q	Question	Answer
1	$2 + 3$	
2	$89 + 11$	
3	What is half of 6?	
4	$125 - 10$	
5	$177 + \square = 270$	
6	$53 = 23 + \square$	
7	$805 - 804$	
8	$4 \times 1 = 4$, so $4 \div 4 = \square$	
9	Write 20:12 in 12 hour clock format	
10	9:37 pm is how many minutes after 9:08 pm?	
Total out of 10		

Q	Question	Answer
1	$2 \times 9 = \square$	
2	$24 \div 3 = \square$	
3	$10 \times \square = 80$	
4	$6 \div \square = 3$	
5	$1 \times 2 = \square$	
6	$28 \div 7 = \square$	
7	$\square \times 6 = 54$	
8	$\square \div 2 = 5$	
9	$3 \times 9 = \square$	
10	$4 \div 4 = \square$	
Total out of 10		



Q	Question	Answer
1	61×31	
2	$657 - 382$	
3	7.2×94.2	
4	0.7 as a fraction	
5	$46.15 + 5.08$	
6	$(-40) \div (-4)$	
7	If $a = 4$, $b = 3$ and $c = 1$, what is the value of $3a - b^2$?	
8	$3 - (-5)$	
9	What is the highest common factor of 12 and 4?	
10	What is the value of 13 squared?	
Total out of 10		

Problem solving!

Apply your core skills to the challenge question below...

In each box, find pairs of numbers that **sum to 100**.
Circle the number that is left over.



A

25	70	40
45	30	75
60	35	55

B

85	65	55
45	95	15
5	25	35

C

88	28	22
82	78	72
18	92	12

D

73	17	27
13	84	37
16	83	87

E

11	22	33
44	67	78
87	89	56

F

49	53	55
57	41	51
43	59	47

place value puzzles

In each puzzle, work out which number from the grid is being described.

Puzzle 1

- My number is not an integer.
- My number has a 1 in the units column
- My number is greater than thirty
- My number is \neq 31.3
- My number has 1 in the hundredths column

1.01	301	31.1
3.1	3.101	31.3
30.1	31.01	1.03

Puzzle 2

- My number is less than eighteen thousand
- My number is \neq 180
- My number is $>$ 18
- My number has 8 in both the tens and tenths columns

180	18.01	1.81
0.18	1800	188
180.8	18180	18.8



HOMWORK 2: ODD AND EVEN

An odd number can end in 1, 3, 5, 7 or 9.

An even number can end in 0, 2, 4, 6 or 8.

Circle all the even numbers in the grid below.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Write a sentence describing what you have found.

All even numbers are in the _____ times table.
Therefore, all even numbers are divisible by _____.

CHALLENGE 1

- I am greater than 200.
- I am even.
- I am a multiple of 5.

Who am I? _____

A 526	B 713	C 92	D 107
E 274	F 810	G 625	H 321

CHALLENGE 2

- I am an odd number.
- I am less than 800.
- The total of all my digits is also odd.
- I am not a multiple of 5.

Who am I? _____

A 526	B 713	C 92	D 107
E 274	F 810	G 625	H 321

Problem solving!

Apply your core skills to the challenge questions below...



CHALLENGE 1

- I am less than 900.
- I am a 3-digit number.
- I am odd.
- The total of all my digits is also odd.

Who am I? _____

A 509	B 280	C 465	D 258
E 87	F 833	G 912	H 314

CHALLENGE 2

- I am greater than 250.
- My hundreds digit is less than 8.
- I am an even number.
- My smallest digit is my tens digit.

Who am I? _____

A 509	B 280	C 465	D 258
E 87	F 833	G 912	H 314

Shown below are 4 number cards.



Using the number cards, make

(a) the smallest possible 2 digit number.

.....
(1)

(b) the largest possible 4 digit **odd** number.

.....
(1)

Write down an odd prime number.

.....
(1)

Write down an even square number.

.....
(1)

Andrea adds two odd numbers.

Is the correct answer, odd, even or either?

odd

even

either



HOMWORK 3: THE SIEVE OF ERATOSTHENES

You will need to complete some research for this homework task.

By using the internet or reading a book, try and find the answers to the questions below:

1) Who was Eratosthenes?

2) When and where was he born, and how old was he when he died?

3) Eratosthenes became the chief librarian...where?

4) Eratosthenes was the first person to do what?

5) What two nicknames was Eratosthenes given?

6) We know Eratosthenes for his 'sieve', which helps people to identify prime numbers. What is the definition for a prime number?



Using the Sieve of Eratosthenes

1) Circle the first number (number 2). This number is **prime**.

2) Cross out all the multiples of 2 on your grid. You would cross out the numbers 4, 6, 8, 10, 12, ...

These numbers have been 'sieved' out.

3) Circle the next number on your list that has not been crossed off yet– this should be the number 3. This number is **prime**.

4) Cross out all the multiples of 3 on your grid (6, 9, 12, 15...)

5) Circle the next number on your list that has not been crossed off yet– this should be the number 5. This number is **prime**.

6) Cross out all the multiples of 5 on your grid (5, 10, 15, 20...)

7) Circle the next number on your list that has not been crossed off yet– this should be the number 7. This number is **prime**.

8) Cross out all the multiples of 7 on your grid (7, 14, 21, 28...)

Circle all the numbers not crossed off yet—these are all PRIME!

	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



HOMWORK 4: MATHSWATCH



For this week's homework, your teacher will set you a task to complete on the website Mathswatch. The task will be based on the content you have learnt over the past half term in your maths lessons. You can use the space on the next page to do any working out if you need to.

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If you need a printed copy of this homework task, make sure you speak to your class teacher before the due date and they will print a copy for you to complete.



HOMEWORK 5: NUMERACY

MENTAL STRATEGIES -
do these in your head

TIMESTABLES -
do these in your head

Literacy challenge: Missing vowels!

Below are 3 keywords in maths, but the vowels are missing. Can you fill the blanks?

D _ V _ S _ _ N

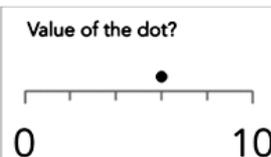
C _ LC _ L _ T _ _ N

_ P _ R _ T _ _ NS

×	4	5	8	3	7	6
4						
3						
7						
8						
6						
5						

Q	Question	Answer
1	$\square + 6 = 10$	
2	What is double 5?	
3	Halve 63	
4	$26 + 30$	
5	$98 + 99$	
6	$22 + 10 = 22 + 8 + \square$	
7	$3 + 223$	
8	$20 + 61 = 20 + 60 + \square$	
9	$\square + 3 = 5$	
10	$\square + 2 = 20$	
Total out of 10		

Q	Question	Answer
1	$9 \times 5 = \square$	
2	$10 \div 2 = \square$	
3	$8 \times \square = 8$	
4	$16 \div \square = 4$	
5	$8 \times 4 = \square$	
6	$15 \div 3 = \square$	
7	$\square \times 2 = 12$	
8	$\square \div 7 = 1$	
9	$5 \times 8 = \square$	
10	$14 \div 2 = \square$	
Total out of 10		

Q	Question	Answer
1	$3905 \div 5$	
2	$7 + 25 \div 5$	
3	$2.013 \div 0.1$	
4	2.26×1000	
5	$34 - 0.74$	
6	Write $56/72$ in its simplest form	
7	Difference between 4 and -4	
8	Value of the dot? 	
9	What is the lowest common multiple of 4 and 5?	
10	What is the cube root of 27?	
Total out of 10		

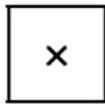
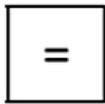


Problem solving!

Apply your core skills to the challenge questions below...

Symbols

Look at these symbols.



Choose two of the symbols to make a correct calculation.

12 3 4

1 mark

Now choose two of the symbols to make a **different** correct calculation.

12 3 4

1 mark

place value puzzles

Puzzle 3

My number is ≤ 0.2

My number is $\neq 0.15$

My number is greater than one tenth

My number has no hundredths

0.24	0.2	0.12
0.02	0.01	0.5
0.15	2.02	0.1

Puzzle 4

My number is $< 44,000$

My number is more than five thousand four hundred and fifty

My number is $\neq 5454$

My number has 5 hundreds

My number is greater than fifteen thousand

14,500	15,501	45000
5401	5444	5454
14,534	4544	10,500



HOMEWORK 6: ADDING AND SUBTRACTING

MENTAL STRATEGIES -

do these in your head

- | | | | | | |
|------|-------------------------------|------|-------------------------------|------|-------------------------------|
| 1). | $13 + 4 = \underline{\quad}$ | 2). | $20 - 10 = \underline{\quad}$ | 3). | $6 + 6 = \underline{\quad}$ |
| 4). | $16 - 5 = \underline{\quad}$ | 5). | $32 - 29 = \underline{\quad}$ | 6). | $11 + 6 = \underline{\quad}$ |
| 7). | $5 + 25 = \underline{\quad}$ | 8). | $37 - 10 = \underline{\quad}$ | 9). | $16 - 5 = \underline{\quad}$ |
| 10). | $11 + 23 = \underline{\quad}$ | 11). | $13 + 5 = \underline{\quad}$ | 12). | $19 - 6 = \underline{\quad}$ |
| 13). | $7 + 5 = \underline{\quad}$ | 14). | $18 - 12 = \underline{\quad}$ | 15). | $44 - 38 = \underline{\quad}$ |
| 16). | $12 + 12 = \underline{\quad}$ | 17). | $20 - 9 = \underline{\quad}$ | 18). | $53 - 10 = \underline{\quad}$ |
| 19). | $95 - 91 = \underline{\quad}$ | 20). | $57 - 53 = \underline{\quad}$ | 21). | $25 + 12 = \underline{\quad}$ |
| 22). | $19 - 11 = \underline{\quad}$ | 23). | $39 - 33 = \underline{\quad}$ | 24). | $9 + 7 = \underline{\quad}$ |

Calculate $63 + 38$

Bronze ★

Below is a customer's gas meter readings.

Previous Reading: 5397
Current Reading: 5786

Work out how many units of gas were used.

Calculate $63 - 38$

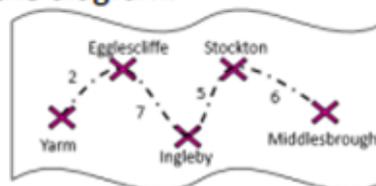
Bronze ★

Silver ★

Find the difference between 804 and 357.

Bronze ★

The distance, in miles, between 5 towns is shown in the diagram.



Find the sum of 634 and 173.

Bronze ★

Work out the distance between

a) Egglecliffe and Stockton

b) Yarm and Middlesbrough

Silver ★



Problem solving!

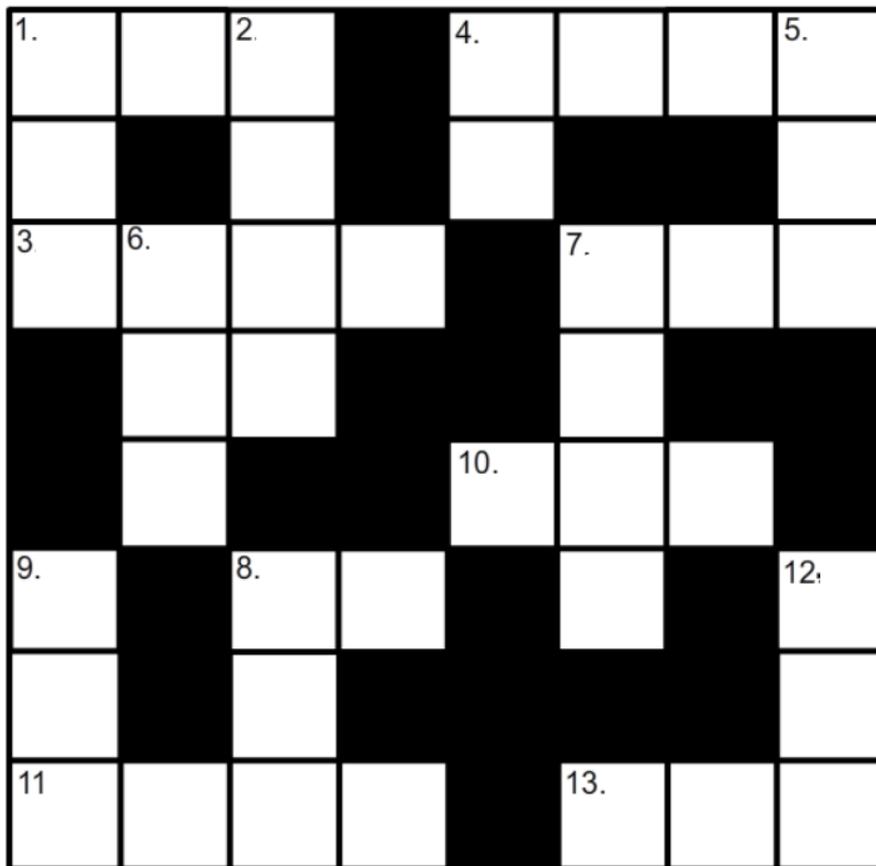
Apply your core skills to the challenge questions below...

across

- 1) $32 + 125$
- 3) $896 + 2631$
- 4) $4977 + 330$
- 7) $1012 - 16$
- 8) $1028 - 970$
- 10) $2040 - 1231$
- 11) $142 + 961$
- 13) $1218 - 900$

down

- 1) $98 + 15$
- 2) $283 + 6739$
- 4) $153 - 97$
- 5) $654 + 122$
- 6) $1000 - 469$
- 7) $10000 - 299$
- 8) $613 - 63$
- 9) $98 + 273$
- 12) $1223 - 515$



You **MUST** show your working out below.





HOMWORK 7: MATHSWATCH



For this week's homework, your teacher will set you a task to complete on the website Mathswatch. The task will be based on the content you have learnt over the past half term in your maths lessons. You can use the space on the next page to do any working out if you need to.

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HOMWORK 8: NUMERACY

MENTAL STRATEGIES -
do these in your head

TIMESTABLES -
do these in your head

Literacy challenge:
Missing vowels!

Below are 3 keywords in maths,
but the vowels are missing. Can
you fill the blanks?

PL _ C _ V _ L _ _

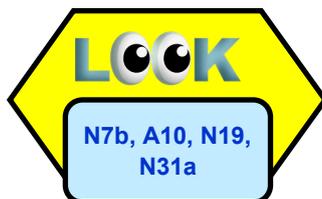
TH _ _ S _ ND

S _ BTR _ CT _ _ N

×	6	3	4	7	8	5
4						
6						
5						
7						
3						
8						

Q	Question	Answer
1	1 + 4	
2	19 + 81	
3	Halve 2	
4	42 - 10	
5	124 + □ = 200	
6	84 = 34 + □	
7	925 - 920	
8	7 × 8 = 56, so 56 ÷ 7 = □	
9	Write 1:58 pm in 24 hour clock format	
10	6:59 am is how many minutes after 6:19 am?	
Total out of 10		

Q	Question	Answer
1	2 × 6 = □	
2	8 + 2 = □	
3	1 × □ = 10	
4	10 ÷ □ = 1	
5	9 × 7 = □	
6	5 + 5 = □	
7	□ × 8 = 72	
8	□ ÷ 8 = 3	
9	2 × 4 = □	
10	18 ÷ 6 = □	
Total out of 10		



Q	Question	Answer
1	3 × 991	
2	16182 - 8764	
3	2.3 × 7.17	
4	0.45 as a fraction	
5	22.17 + 8.31	
6	(-48) ÷ 6	
7	If a = 6 b = 3 and c = 10, what is the value of bc / a ?	
8	(-10) - (-5)	
9	What is the highest common factor of 15 and 27?	
10	What is the value of 7 squared?	
Total out of 10		

Problem solving!



Apply your core skills to the challenge question below...

Drinks

A café sells small, medium and large drinks.

The table shows the number of drinks the café sold on one day.



	Coffee	Tea	Chocolate
Small	110	14	24
Medium	121	103	42
Large	90	64	58

(a) Altogether, how many chocolate drinks were sold?



Handwritten grid area for solving question (a).

(b) A small tea costs 50p.

Altogether, how much was spent on small teas?

Handwritten grid area for solving question (b).

Puzzle 5

What is the largest number that can be made by rearranging these cards?



Handwritten grid area for solving Puzzle 5.

Puzzle 6

What is the **smallest** number that can be made by rearranging these cards?





HOMEWORK 9: ANALOGUE CLOCKS

learn by heart

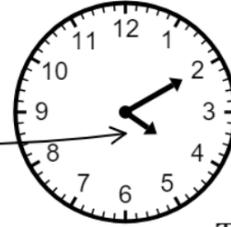
The hour hand is the shorter hand

The minute hand is longer

The hour is split into 5 minute intervals.
The 1 represents 1 lot of 5 minutes after the hour

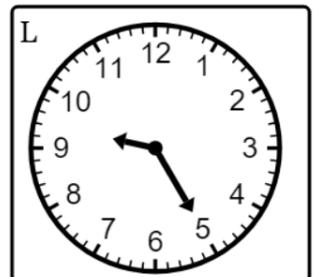
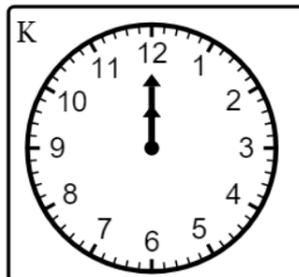
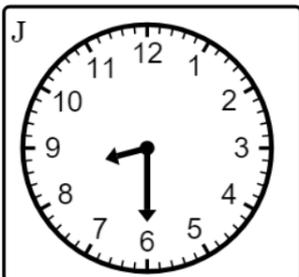
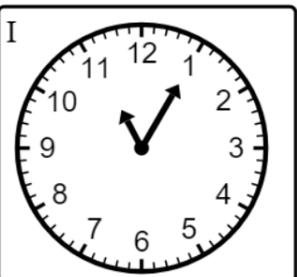
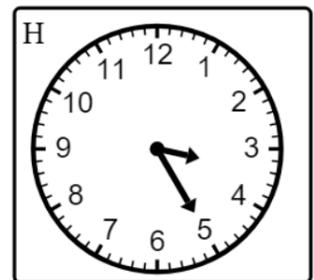
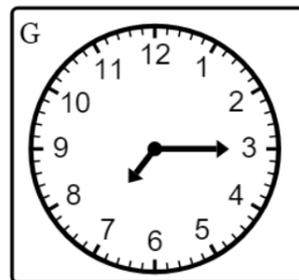
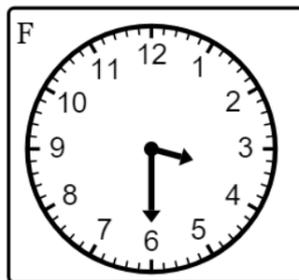
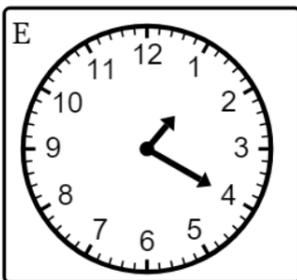
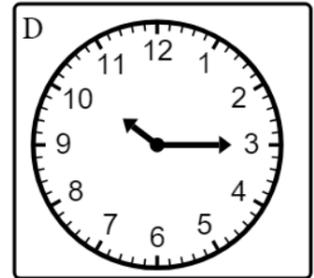
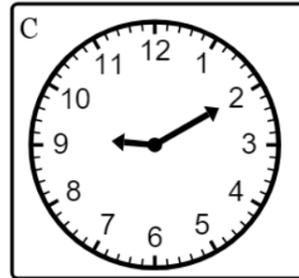
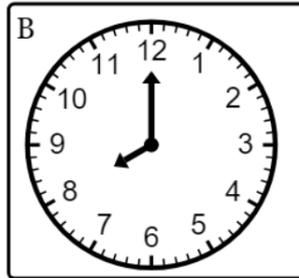
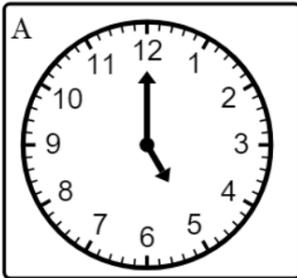
15 minutes past the hour (at 3) is pronounced 'quarter past'

30 minutes past the hour (at 6) is pronounced 'half past'

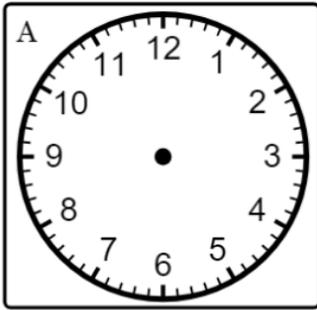


The minute hand is at 2, this means $2 \times 5 = 10$ minutes past the hour, so 4.10

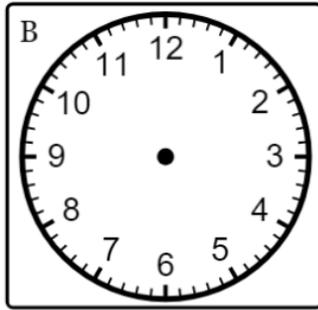
1. Write the correct time under each clock



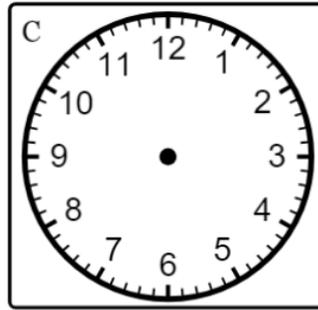
2. On each clock draw the hands in the correct place to show the time given



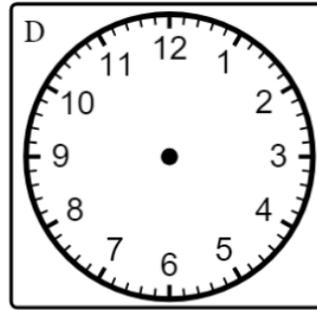
11.05



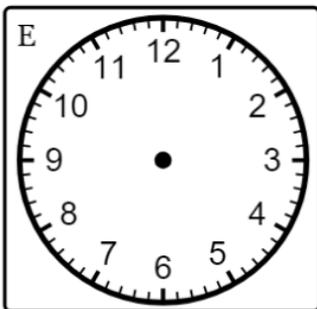
4.15



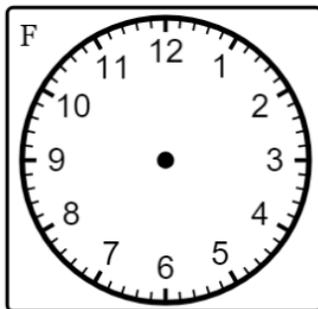
9.20



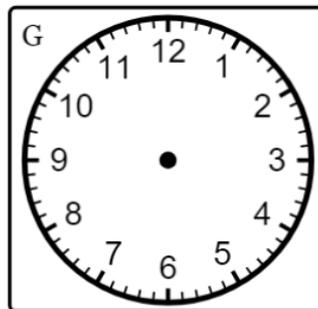
6.30



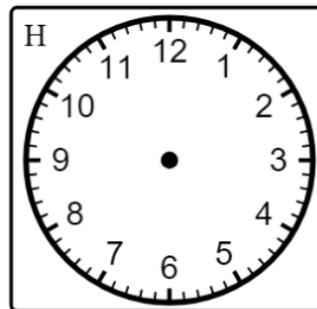
Twenty past eight



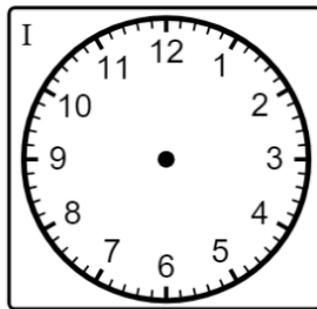
Twenty five past seven



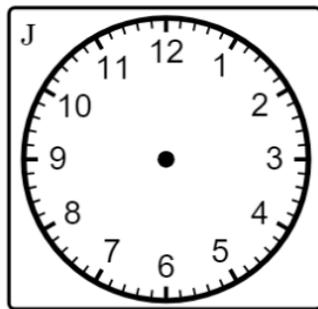
Half past one



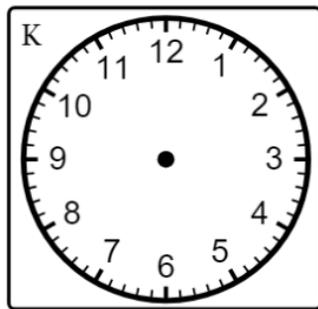
Ten past twelve



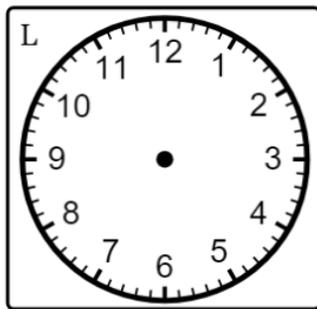
Half past two



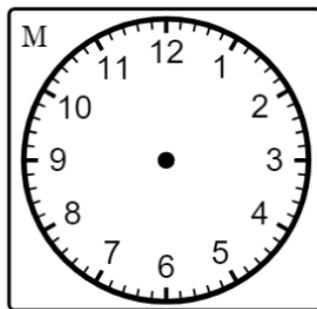
Five o' clock



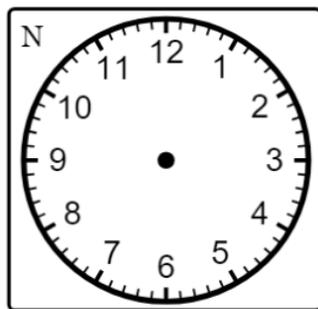
Quarter past six



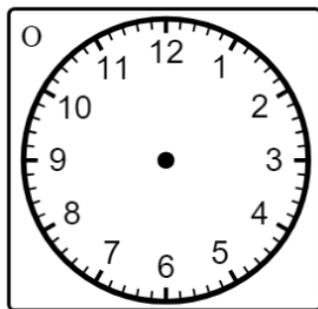
Twenty five past nine



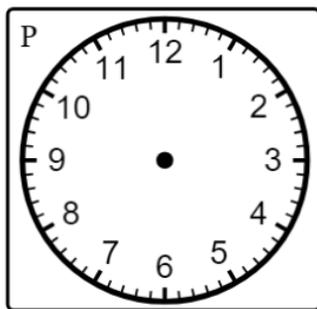
2.06



8.29



10.01



3.16



HOMEWORK 10: RESEARCH TASK

Roman Numerals

Many clock faces still use roman numerals like IV and XI.

At the end of a film, the year it was made is often given using roman numerals. For example. MCMLXXX means 1980.

I	one	XI	eleven
II	two	XII	twelve
III	three	XX	twenty
IV	four (one before five)	XXX	thirty
V	five	XL	forty (ten before fifty)
VI	six	L	fifty
VII	seven	LX	sixty
VIII	eight	C	hundred
IX	nine (one before ten)	CM	nine hundred
X	ten	M	thousand

1 Write down the value of each of the numbers written below in roman numerals.

(a) VII

(b) XIII

(c) XVI

(d) XXVII

(e) XVIII

(f) XIX

(g) XLV

(h) LXXII

2 Write these numbers in roman numerals.

(a) 8

(b) 17

(c) 22

(d) 58

(e) 39

(f) 84

(g) 78

(h) 123

(i) 339

(j) 1265

(k) 1066

(l) 3194

Cistercian Numerals!



Using the key below, see if you can work out what numbers these Cistercian numerals represent.

1	2	3	4	5	6	7	8	9
10	20	30	40	50	60	70	80	90
100	200	300	400	500	600	700	800	900
1000	2000	3000	4000	5000	6000	7000	8000	9000

For example = 6085

	= 7 0 _ _		= _ 8 _ _		=
	= _ 9 _ 5		= 0 _ _		=
	= _ _ 8 _		=		=



HOMWORK 11: MATHSWATCH



For this week's homework, your teacher will set you a task to complete on the website Mathswatch. The task will be based on the content you have learnt over the past half term in your maths lessons. You can use the space on the next page to do any working out if you need to.

Below are the log in instructions you will need in order to access and complete this homework task.

If you have any issues logging in, you must speak to your class teacher as soon as possible.

Username— firstnamelastname@benjamin

Password— your DOB (format: monthDYYYY)

If you need a printed copy of this homework task, make sure you speak to your class teacher before the due date and they will print a copy for you to complete.



HOMWORK 12: NUMERACY

MENTAL STRATEGIES -
do these in your head

TIMESTABLES -
do these in your head

Literacy challenge – Missing vowels!

Below are 3 keywords in maths,
but the vowels are missing. Can
you fill the blanks?

S Q _ _ R _

D _ C _ M _ L S

T I M E S T A B L E S

×	8	6	7	3	4	5
4						
6						
3						
8						
5						
7						

Q	Question	Answer
1	$\square + 5 = 10$	
2	Double 3	
3	Halve 35	
4	$173 + 50$	
5	$47 + 44$	
6	$32 + 10 = 32 + 8 + \square$	
7	$1 + 566$	
8	$40 + 68 = 40 + 60 + \square$	
9	$3 + 2$	
10	$4 + \square = 20$	
Total out of 10		

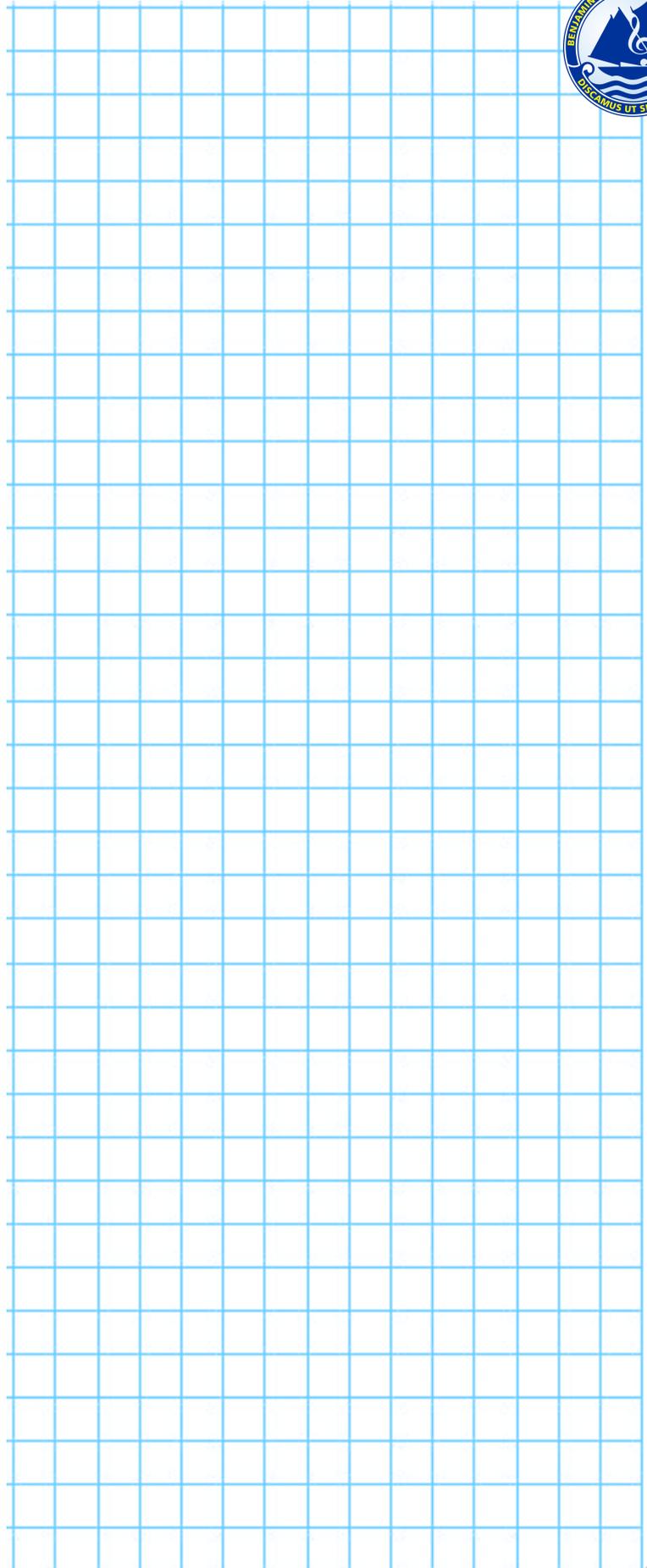
Q	Question	Answer
1	$6 \times 3 = \square$	
2	$14 + 2 = \square$	
3	$6 \times \square = 36$	
4	$18 + \square = 6$	
5	$9 \times 3 = \square$	
6	$32 + 8 = \square$	
7	$\square \times 4 = 24$	
8	$\square + 10 = 4$	
9	$4 \times 2 = \square$	
10	$30 + 3 = \square$	
Total out of 10		

Q	Question	Answer
1	$2688 \div 3$	
2	$8 + 8 + 2$	
3	$245.52 \div 4$	
4	6.14×10	
5	$16.15 - 5.11$	
6	Write $63/70$ in its simplest form	
7	Which is the lowest number, 3 or -9?	
8	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p>Value of the dot?</p> <p style="text-align: center;">25 75</p> </div>	
9	List the first 4 multiples of 14	
10	What is the value of (-4) cubed?	
Total out of 10		





- 1 What is half of half of eighty?
- 2 How many twenty pence coins make three pounds?
- 3 What is the perimeter of a rectangular room twelve metres by six metres?
- 4 I am facing South-West and the wind is hitting me on my back. What direction is the wind coming from?
- 5 If six per cent of pupils of a school are absent, what percentage of pupils are present?
- 6 Write nought point seven as a fraction.
- 7 What is twenty-fifteen in twelve hour clock time?
- 8 Write the number six thousand two hundred and four in figures.
- 9 What number is twelve more than fifty-seven?
- 10 If pears cost eleven pence each, how many can I buy for one pound?
- 11 With three darts I score six, double five and treble five. What is my total score?
- 12 A film lasting one and half hours starts at six twenty p.m. What time does the film finish?
- 13 If I buy a card for sixty-five pence and a stamp for thirty-two pence, how much change do I get from one pound?
- 14 What number is nine less than sixty-two?
- 15 How many degrees are there in one tenth of a right angle?
- 16 A fifth of my wages is taken in tax. What percentage have I got left?
- 17 How many grams are there in half a kilogram?
- 18 What four coins make forty pence?
- 19 One angle in an isosceles triangle is one hundred and twenty degrees. How large is each of the other two angles?
- 20 What number is one hundred times bigger than nought point six?



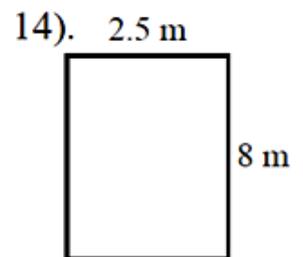
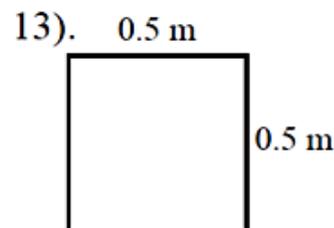
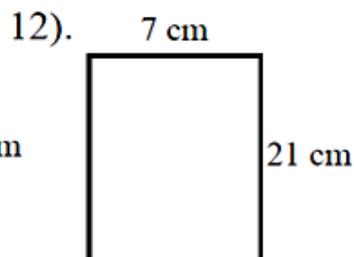
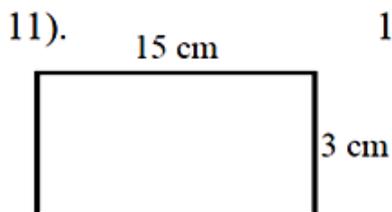
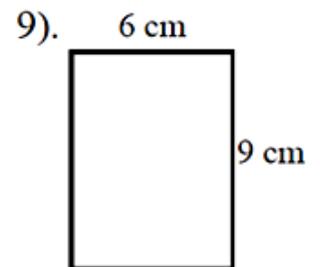
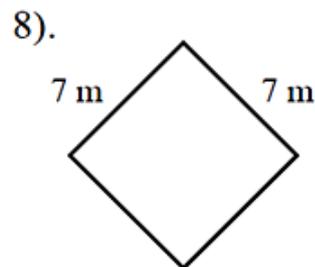
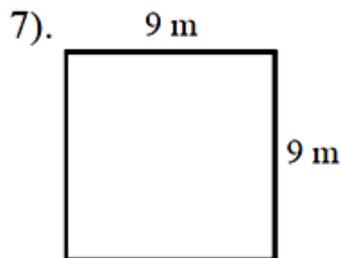
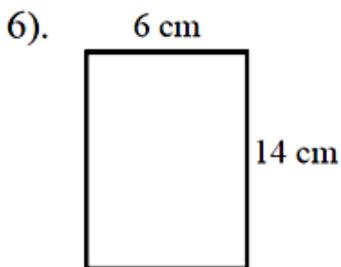
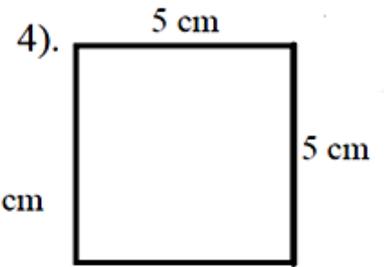
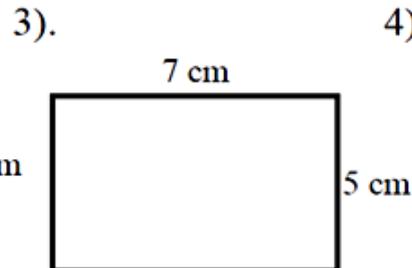
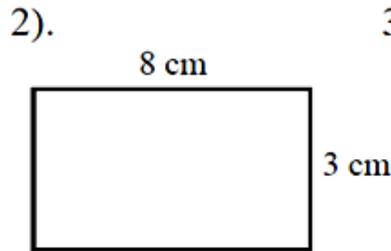
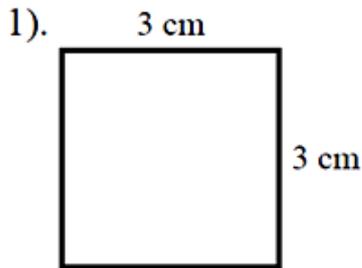


HOMWORK 13: PERIMETER

The perimeter is the total distance around the outside of a 2D (flat) shape.
To calculate it, add the lengths of all the sides together.

Find the perimeter of the following rectangles and squares.

Remember to give the units for each answer. (Diagrams are not to scale).



Problem solving!

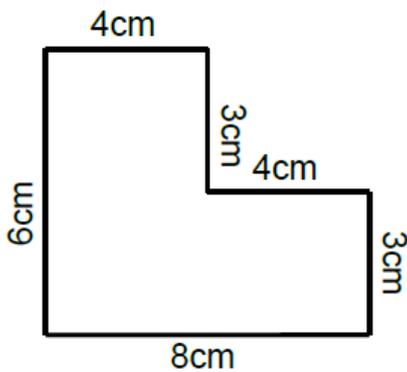


Apply your core skills to the challenge questions below...

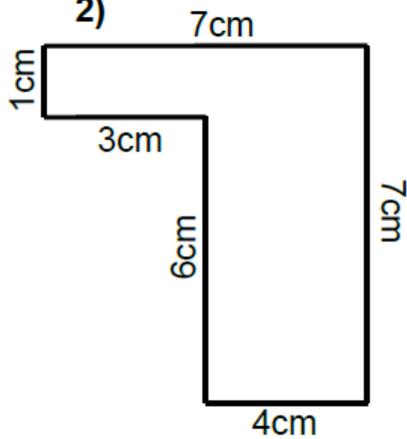
Calculate the perimeter of the following shapes.

Section A

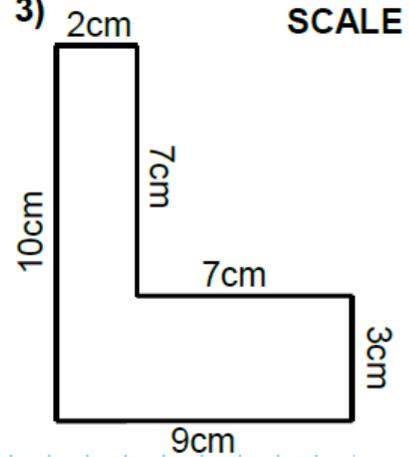
1)



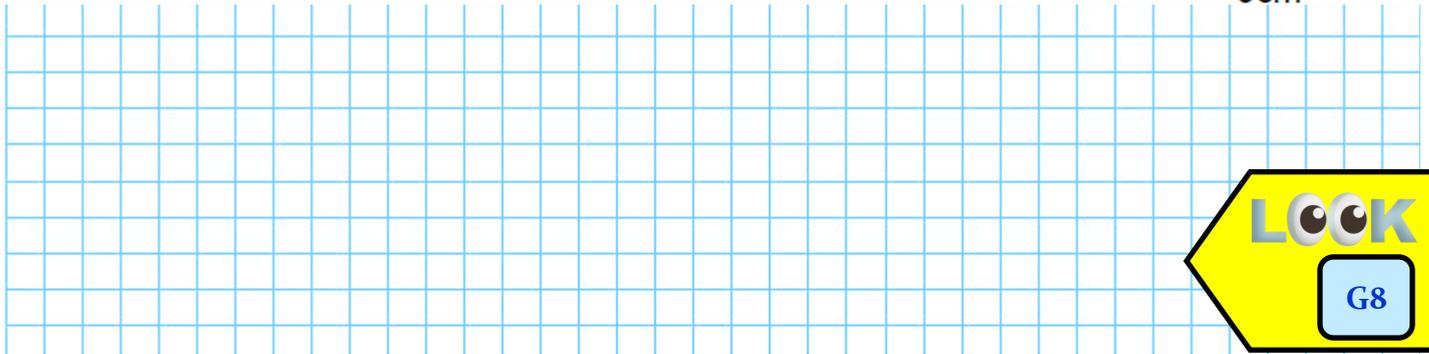
2)



3)

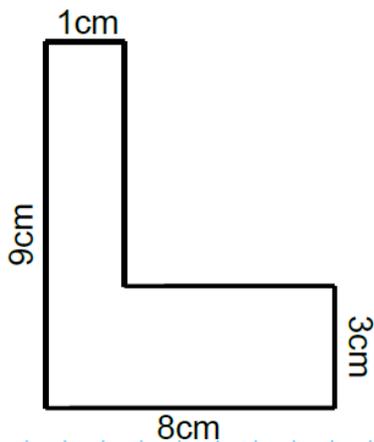


NOT TO SCALE

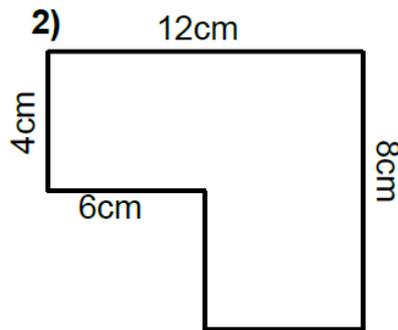


Section B

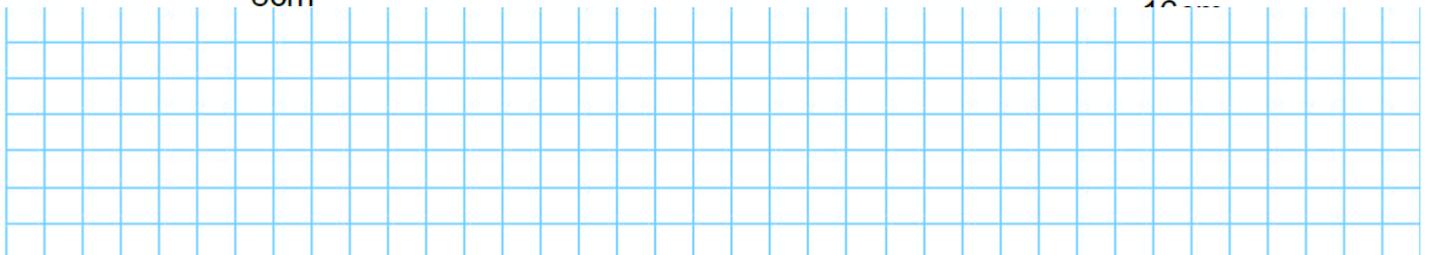
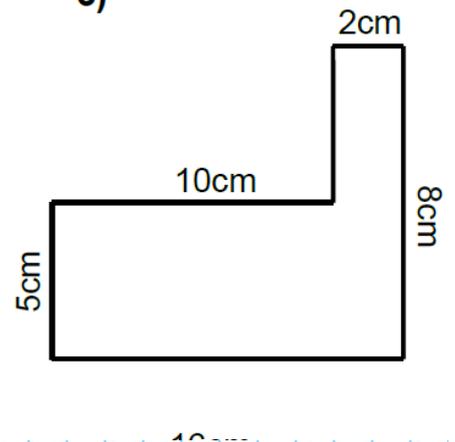
1)



2)



3)





HOMWORK 14: MATHSWATCH



For this week's homework, your teacher will set you a task to complete on the website Mathswatch. The task will be based on the content you have learnt over the past half term in your maths lessons. You can use the space on the next page to do any working out if you need to.

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Password— your DOB (format: monthDYYYYY)

If you need a printed copy of this homework task, make sure you speak to your class teacher before the due date and they will print a copy for you to complete.

ANSWERS—WEEK 1

8	48	56	24	64	40	32
6	36	42	18	48	30	24
4	24	28	12	32	20	16
7	42	49	21	56	35	28
3	18	21	9	24	15	12
5	30	35	15	40	25	20
X	6	7	3	8	5	4

Q	Question	Answer
1	61×31	1891
2	$657 - 382$	275
3	7.2×94.2	678.24
4	0.7 as a fraction	$\frac{7}{10}$
5	$46.15 + 5.08$	51.23
6	$(-40) \div (-4)$	10
7	If $a = 4$, $b = 3$ and $c = 1$, what is the value of $3a - b^2$?	3
8	$3 - (-5)$	8
9	What is the highest common factor of 12 and 4?	4
10	What is the value of 13 squared?	169

Q	Question	Answer
1	$2 \times 9 = \square$	18
2	$24 \div 3 = \square$	8
3	$10 \times \square = 80$	8
4	$6 + \square = 3$	2
5	$1 \times 2 = \square$	2
6	$28 \div 7 = \square$	4
7	$\square \times 6 = 54$	9
8	$\square + 2 = 5$	10
9	$3 \times 9 = \square$	27
10	$4 + 4 = \square$	1

Q	Question	Answer
1	$2 + 3$	5
2	$89 + 11$	100
3	What is half of 6?	3
4	$125 - 10$	115
5	$177 + \square = 270$	93
6	$53 = 23 + \square$	30
7	$805 - 804$	1
8	$4 \times 1 = 4$, so $4 \div 4 = \square$	1
9	Write 20:12 in 12 hour clock format	8:12 pm
10	9:37 pm is how many minutes after 9:08 pm?	29

ARITHMETIC

MULTIPLICATION

ADDITION

Below are 3 keywords in maths, but some of the letters are missing. Can you fill the blanks?

Literacy challenge –
Missing letters!

My number is not an integer.
 My number has a 1 in the units column
 My number is greater than thirty
 My number is $\neq 31.3$
 My number has 1 in the hundredths column

Puzzle 1 (31.01)

1.01	301	31.1
3.1	3.101	31.3
30.1	31.01	1.03

My number is less than eighteen thousand
 My number is $\neq 180$
 My number is > 18
 My number has 8 in both the tens and tenths columns

Puzzle 2 (180.8)

180	18.01	1.81
0.18	1800	188
180.8	18180	18.8

73	17	27
13	84	37
16	83	87

D

11	22	33
44	67	78
87	89	56

E

49	53	55
57	41	51
43	59	47

F

25	70	40
45	30	75
60	35	55

A

85	65	55
45	95	15
5	25	35

B

88	28	88
82	78	72
18	92	12

C

ANSWERS—WEEK 2

91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

Write a sentence describing what you have found.

All even numbers are in the **two** times table. Therefore, all even numbers are divisible by **two**.

274	810	625	321
E	F	G	H
526	713	92	107
A	B	C	D

- Who am I? _____
- I am an odd number.
 - I am less than 800.
 - The total of all my digits is also odd.
 - I am not a multiple of 5.

CHALLENGE 2

274	810	625	321
E	F	G	H
526	713	92	107
A	B	C	D

- Who am I? _____
- I am greater than 200.
 - I am even.
 - I am a multiple of 5.

CHALLENGE 1

87	912	833	314
E	G	F	H
509	465	280	258
A	C	B	D

Who am I? _____

- I am less than 900.
- I am a 3-digit number.
- I am odd.
- The total of all my digits is also odd.

CHALLENGE 1

87	912	833	314
E	G	F	H
509	465	280	258
A	C	B	D

Who am I? _____

- I am greater than 250.
- My hundreds digit is less than 8.
- I am an even number.
- My smallest digit is my tens digit.

CHALLENGE 2

(1)
8629

(b) the largest possible 4 digit **odd** number.

(1)
26

(a) the smallest possible 2 digit number.

Using the number cards, make

Shown below are 4 number cards.

2 9 8 6

odd even either

Is the correct answer, odd, even or either?

Andrea adds two odd numbers.

(1)
Lots of different answers

Write down an even square number.

(1)
Lots of different answers

Write down an odd prime number.

ANSWERS—WEEK 3

1) Who was Eratosthenes?

Eratosthenes was a Greek mathematician and geographer.

2) When and where was he born, and how old was he when he died?

He was born 276 BC in Cyrene (North Africa—known today as Libya) and he died 194BC at 82 years old.

3) Eratosthenes became the chief librarian...where?

He became the chief librarian in the Great Library of Alexandria. This is located in Egypt and was one of the most significant libraries in the world.

4) Eratosthenes was the first person to do what?

He may have been the first person to use the word geography, invented the system of longitude and latitude, and made a map of the known world. Additionally, he designed a system for finding prime numbers.

5) What two nicknames was Eratosthenes given?

Pentathlos and Beta — a man of many talents.

6) We know Eratosthenes for his 'sieve', which helps people to identify prime numbers. What is the definition for a prime number?

A prime number is a whole number that has exactly two factors, 1 and itself.

Meaning that it is only divisible by 1 and itself.

ANSWERS—WEEK 5

5	20	25	40	15	35	30
6	24	30	48	18	42	36
8	32	40	64	24	56	48
7	28	35	56	21	49	42
3	12	15	24	9	21	18
4	16	20	32	12	28	24
X	4	5	8	3	7	6

Question	Answer
1	3905 ÷ 5 = 781
2	7 + 25 ÷ 5 = 12
3	2.013 ÷ 0.1 = 20.13
4	2.26 × 1000 = 2260
5	34 - 0.74 = 33.26
6	Write 56/72 in its simplest form 7/9
7	Difference between 4 and -4 = 8
8	See number line = 6
9	What is the lowest common multiple of 4 and 5? 20
10	What is the cube root of 27? 3
Question	Answer
1	9 × 5 = □ = 45
2	10 ÷ 2 = □ = 5
3	8 × □ = 8 = 1
4	16 ÷ □ = 4 = 4
5	8 × 4 = □ = 32
6	15 ÷ 3 = □ = 5
7	□ × 2 = 12 = 6
8	□ ÷ 7 = 1 = 7
9	5 × 8 = □ = 40
10	14 ÷ 2 = □ = 7
Question	Answer
1	□ + 6 = 10 = 4
2	What is double 5? 10
3	Half of 63 = 31.5
4	26 + 30 = 56
5	98 + 99 = 197
6	22 + 10 = 22 + 8 + □ = 2
7	3 + 223 = 226
8	20 + 61 = 20 + 60 + □ = 1
9	□ + 3 = 5 = 2
10	□ + 2 = 20 = 18

Literacy challenge: Missing vowels!

Below are 3 keywords in maths, but the vowels are missing. Can you fill the blanks?

DIVISION

CALCULATION

OPERATIONS

My number is ≤ 0.2
 My number is $\neq 0.15$
 My number is greater than one tenth
 My number has no hundredths

Puzzle 3 (0.2)

0.15	2.02	0.1
0.02	0.01	0.5
0.24	<u>0.2</u>	0.12

My number is $< 44,000$
 My number is more than five thousand four hundred and fifty
 My number is $\neq 5454$
 My number has 5 hundreds
 My number is greater than fifteen thousand

Puzzle 4 (15,501)

14,534	4544	10,500
5401	5444	5454
14,500	<u>15,501</u>	45000

Symbols

Look at these symbols.

Choose two of the symbols to make a correct calculation.

$12 \div 3 = 4$

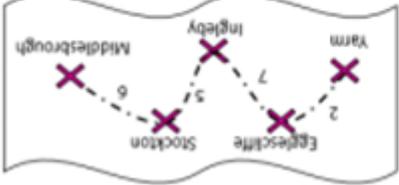
1 mark

Now choose two of the symbols to make a **different** correct calculation.

$12 \times 3 = 4$

1 mark

ANSWERS—WEEK 6

<p>Silver ★</p> <p>Work out the distance between</p> <p>a) Egglecliffe and Stockton $7 + 5 = 12 \text{ miles}$</p> <p>b) Yarm and Middlesbrough $2 + 7 + 5 + 6 = 20 \text{ miles}$</p>	<p>Bronze ★</p> <p>Find the sum of 634 and 173. $634 + 173 = 807$</p>
<p>The distance, in miles, between 5 towns is shown in the diagram.</p> 	<p>Bronze ★</p> <p>Find the difference between 804 and 357. $804 - 357 = 447$</p>
<p>Silver ★</p> <p>Work out how many units of gas were used.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Previous Reading: 5397 Current Reading: 5786</p> </div> <p>$5786 - 5397 = 389 \text{ units}$</p>	<p>Bronze ★</p> <p>Calculate $63 - 38$ 25</p>
<p>Below is a customer's gas meter readings.</p>	<p>Bronze ★</p> <p>Calculate $63 + 38$ 101</p>

- 1). 17
- 2). 10
- 3). 12
- 4). 11
- 5). 3
- 6). 17
- 7). 30
- 8). 27
- 9). 11
- 10). 34
- 11). 11
- 12). 18
- 13). 13
- 14). 6
- 15). 6
- 16). 24
- 17). 11
- 18). 43
- 19). 4
- 20). 4
- 21). 37
- 22). 8
- 23). 6
- 24). 16

8	1	3 ^{13.}		3	0	1	1 ^{11.}
0					5		7
7 ^{12.}		1		8	5 ^{8.}		3 ^{9.}
	9	0	8 ^{10.}			1	
		7			2	3	
6	9	9 ^{7.}		7	2	5 ^{6.}	3 ^{3.}
7			6		0		1
7 ^{5.}	0	3	5 ^{4.}		7 ^{2.}	5	1 ^{1.}

ANSWERS—WEEK 8

8	48	24	32	56	64	40
3	18	9	12	21	24	15
7	42	21	28	49	56	35
5	30	15	20	35	40	25
6	36	18	24	42	48	30
4	24	12	16	28	32	20
X	6	3	4	7	8	5

Q	Question	Answer
1	$2 \times 6 = \square$	12
2	$8 + 2 = \square$	4
3	$1 \times \square = 10$	10
4	$10 \div \square = 1$	10
5	$9 \times 7 = \square$	63
6	$5 + 5 = \square$	1
7	$\square \times 8 = 72$	9
8	$\square \div 8 = 3$	24
9	$2 \times 4 = \square$	8
10	$18 + 6 = \square$	3
Q	Question	Answer
1	3×991	2973
2	$16182 - 8764$	7418
3	2.3×7.17	16.491
4	0.45 as a fraction	45/100 or 9/20
5	$22.17 + 8.31$	30.48
6	$(-48) \div 6$	-8
7	If $a = 6$, $b = 3$ and $c = 10$, what is the value of $bc \div a$?	5
8	$(-10) - (-5)$	-5
9	What is the highest common factor of 15 and 27?	3
10	What is the value of 7 squared?	49
Q	Question	Answer
1	$1 + 4$	5
2	$19 + 81$	100
3	Half of 2	1
4	$42 - 10$	32
5	$124 + \square = 200$	76
6	$84 = 34 + \square$	50
7	$925 - 920$	5
8	$7 \times 8 = 56$, so $56 \div 7 = \square$	8
9	Write 1:58 pm in 24 hour clock format	13:58
10	6:59 am is how many minutes after 6:19 am?	40

Literacy challenge: Missing vowels!

Below are 3 keywords in maths, but the vowels are missing. Can you fill the blanks?

PLACE VALUE

THOUSAND

SUBTRACTION

(a) 124

or Shows a complete correct method with not more than one computational error

eg

$$\begin{array}{r} 24 \\ 42 \\ \hline 58 \\ 126 \text{ (error)} \end{array}$$

• $24 + 42 = 64$ (error), $64 + 58 = 122$

(b) £ 7(.00)

(a) 124

or Shows a complete correct method with not more than one computational error

eg

$$\begin{array}{r} 24 \\ 42 \\ \hline 58 \\ 126 \text{ (error)} \end{array}$$

• $24 + 42 = 64$ (error), $64 + 58 = 122$

Puzzle 5

What is the largest number that

can be made by rearranging these cards?



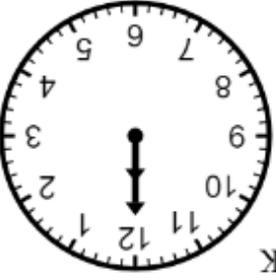
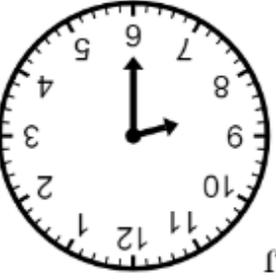
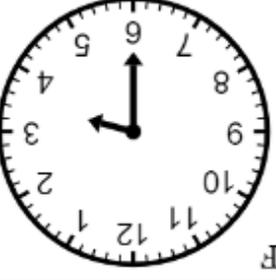
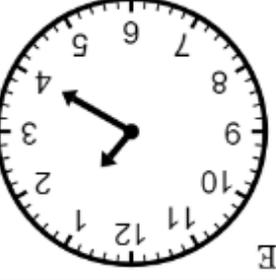
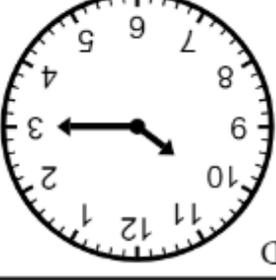
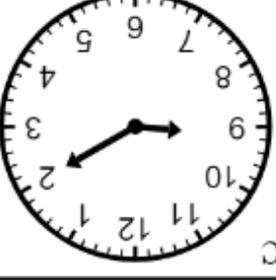
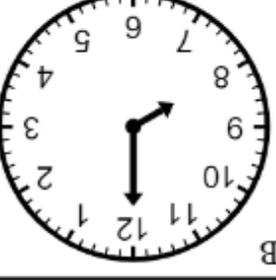
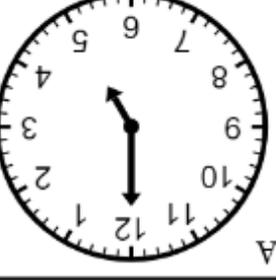
Puzzle 6

What is the **smallest** number that

can be made by rearranging these cards?

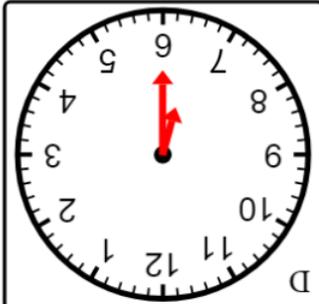
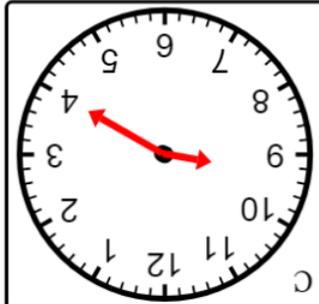
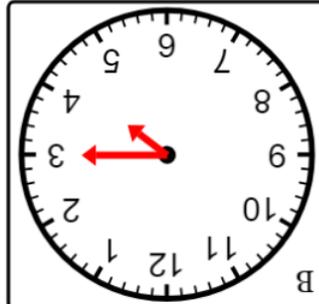
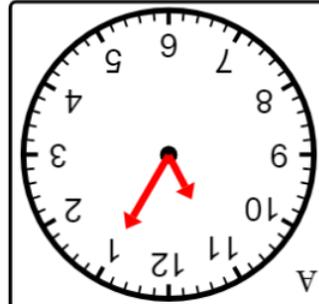


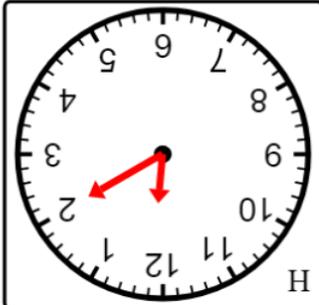
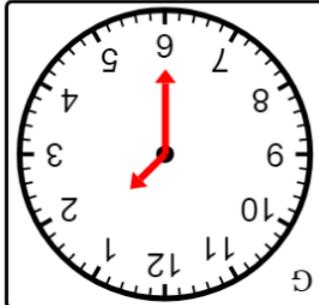
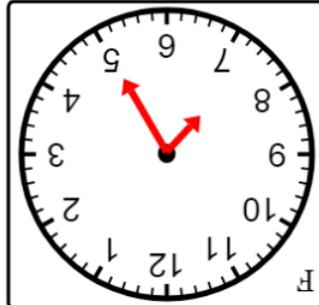
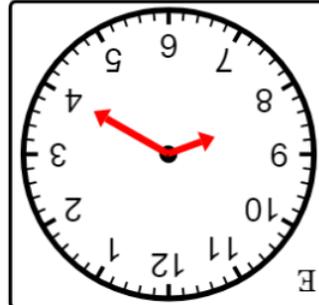
ANSWERS—WEEK 9

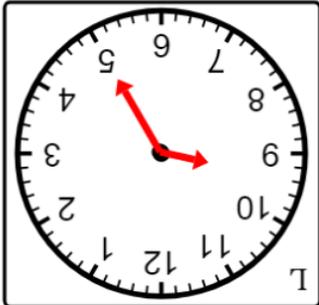
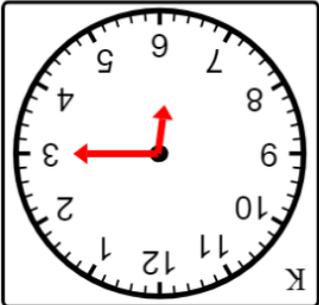
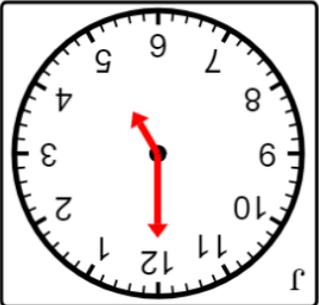
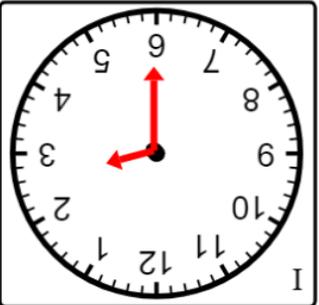
9:25	12:00	8:30	11:05
			
3:25	7:15	3:30	1:20
			
10:15	9:10	8:00	5:00
			

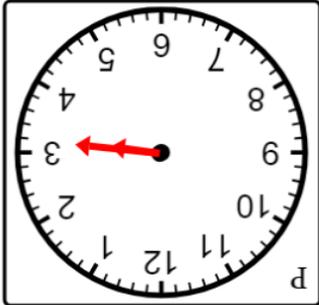
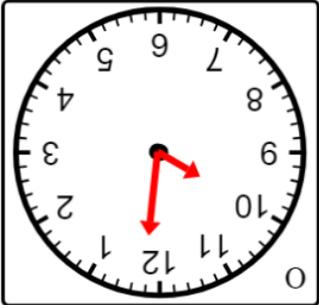
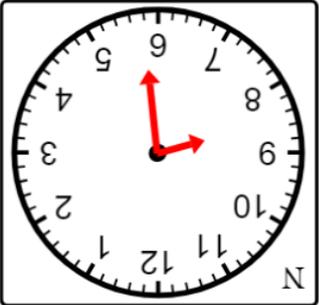
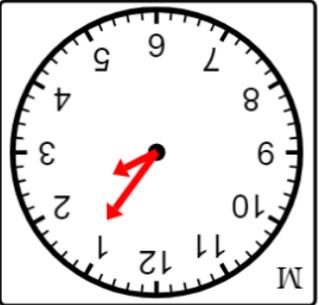
1. Write the correct time under each clock

2. On each clock draw the hands in the correct place to show the time given

<p>D</p>  <p>6.30</p>	<p>C</p>  <p>9.20</p>	<p>B</p>  <p>4.15</p>	<p>A</p>  <p>11.05</p>
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<p>H</p>  <p>Ten past twelve</p>	<p>G</p>  <p>Half past one</p>	<p>F</p>  <p>Twenty five past seven</p>	<p>E</p>  <p>Twenty past eight</p>
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<p>L</p>  <p>Twenty five past nine</p>	<p>K</p>  <p>Quarter past six</p>	<p>J</p>  <p>Five o'clock</p>	<p>I</p>  <p>Half past two</p>
---	---	--	--

<p>P</p>  <p>3.16</p>	<p>O</p>  <p>10.01</p>	<p>N</p>  <p>8.29</p>	<p>M</p>  <p>2.06</p>
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ANSWERS—WEEK 10

2. (a) VIII (b) XVII (c) XXII (d) LVIII (e) XXXIX (f) LXXXIV (g) LXXXVIII (h) CXXIII (i) CCCXXXIX (j) MCCLXV (k) MLXVI (l) MMMCXCIV

1. (a) 7 (b) 13 (c) 16 (d) 27 (e) 18 (f) 19 (g) 45 (h) 72

Cistercian Numerals!
Cistercian numerals (going down): 7036, 1995, 7285,
4817, 227, 2700, 3167, 4433, 6390

ANSWERS—WEEK 12

7	56	42	49	21	28	35
5	40	30	35	15	20	25
8	64	48	56	24	32	40
3	24	18	21	9	12	15
6	48	36	42	18	24	30
4	32	24	28	12	16	20
X	8	6	7	3	4	5



Q	Question	Answer
10	What is the value of (-4) cubed?	-64
9	List the first 4 multiples of 14	14, 28, 42, 56
8	See number line	45
7	Which is the lowest number, 3 or -9?	-9
6	Write $63/70$ in its simplest form	$9/10$
5	$16.15 - 5.11$	11.04
4	6.14×10	61.4
3	$245.52 \div 4$	61.38
2	$8 + 8 \div 2$	12
1	$2688 \div 3$	896

Q	Question	Answer
10	$30 \div 3 = \square$	10
9	$4 \times 2 = \square$	8
8	$\square \div 10 = 4$	40
7	$\square \times 4 = 24$	6
6	$32 \div 8 = \square$	4
5	$9 \times 3 = \square$	27
4	$18 \div \square = 6$	3
3	$6 \times \square = 36$	6
2	$14 \div 2 = \square$	7
1	$6 \times 3 = \square$	18

Q	Question	Answer
10	$4 + \square = 20$	16
9	$3 + 2$	5
8	$40 + 68 = 40 + 60 + \square$	8
7	$1 + 566$	567
6	$32 + 10 = 32 + 8 + \square$	2
5	$47 + 44$	91
4	$173 + 50$	223
3	Half 35	17.5
2	Double 3	6
1	$\square + 5 = 10$	5

Literacy challenge:
Missing vowels!

Below are 3 keywords in maths, but the vowels are missing. Can you fill the blanks?

S Q U A R E

D E C I M A L S

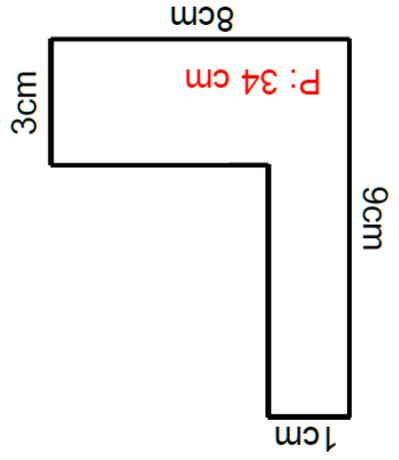
T I M E S T A B L E S

- | | | | | | |
|---|----------------|---------------|----------------------|----------------|--------------------------|
| 1. 20 | 2. 15 | 3. 36m | 4. North-east | 5. 94% | 6. $\frac{7}{10}$ |
| 7. 8:15 pm | 8. 6204 | 9. 69 | 10. 9 | 11. 31 | 12. 7:50 |
| 13. 3p | 14. 53 | 15. 9 | 16. 80% | 17. 400 | |
| 18. 10p, 10p, 10p, 10p or 20p, 10p, 5p, 5p | | | 19. 30° | 20. 60 | |

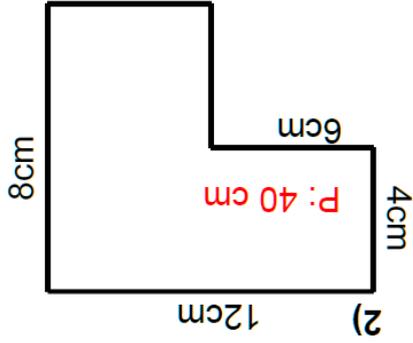
ANSWERS—WEEK 13

- 1). 12 cm
- 5). 42 cm
- 9). 30 cm
- 13). 2 m
- 2). 22 cm
- 6). 40 cm
- 10). 44 m
- 14). 21 m
- 3). 24 cm
- 7). 36 m
- 11). 36 cm
- 4). 20 cm
- 8). 28 m
- 12). 56 cm

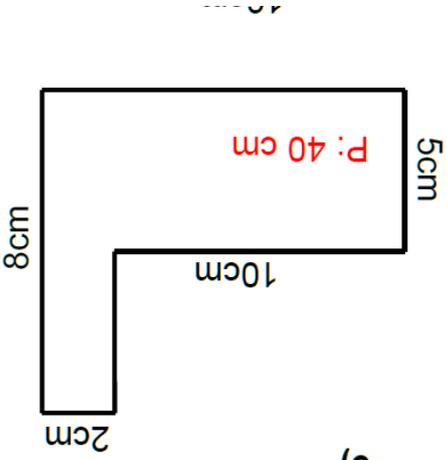
Section B



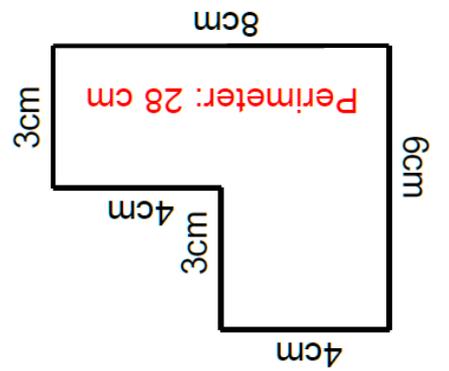
1)



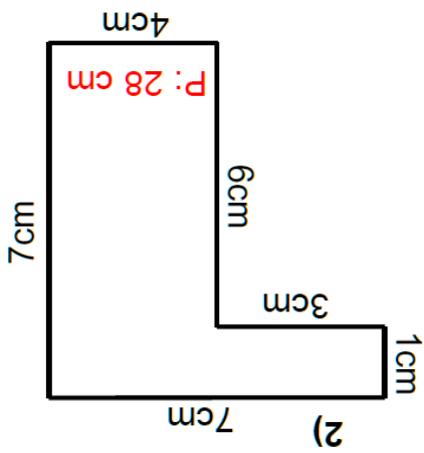
2)



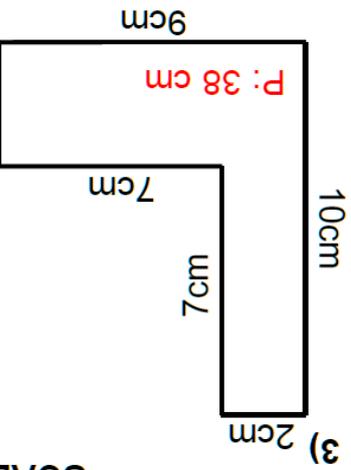
3)



1)



2)



3)

EXTRA SUPPORT

If you need help with completing your homework, please use the Mathswatch clips in the LOOK boxes first. If you are still stuck, speak to your class teacher.

If you need to contact the Head of Maths regarding any worries or concerns, you can contact Miss Pankhurst at:

j.pankhurst@benjaminbritten.school

RESOURCES PROVIDED BY:

MathsPad
Dr Austin Maths
Numeracy Ninjas
Mr Carter Maths
Miss B's Resources
NRich
Worksheet Works
10Ticks

