

Benjamin Britten Academy of Music and Mathematics

MATHEMATICS HOMEWORK BOOKLET

Year 7 Book A
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 SUBTRACT
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

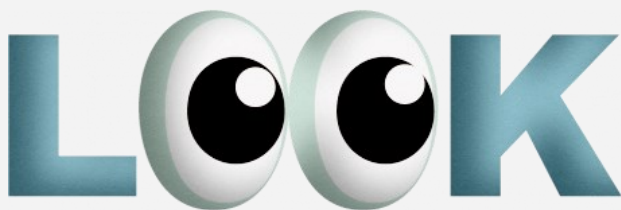
Password—your DOB (format: monthDYYYY)

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

×	7	3	11	6	2	4	8	9	5	12	10
9											
4											
2											
8											
10											
3											
7											
5											
12											
11											
6											

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...



1. Number grid

Here is a number grid.



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

Two squares are shaded.

(a) What is the **total** of the numbers in the two shaded squares?

.....

1 mark

(b) Shade **two different squares** that have the **same total** as the answer to part (a).

1 mark

(c) What is the **total** of the numbers in **all four** shaded squares?

.....

1 mark



HOMWORK 2: ODD AND EVEN

Write a sentence describing what odd and even numbers are.

CHALLENGE 1

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

Who am I? _____

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

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

Problem solving!



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

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

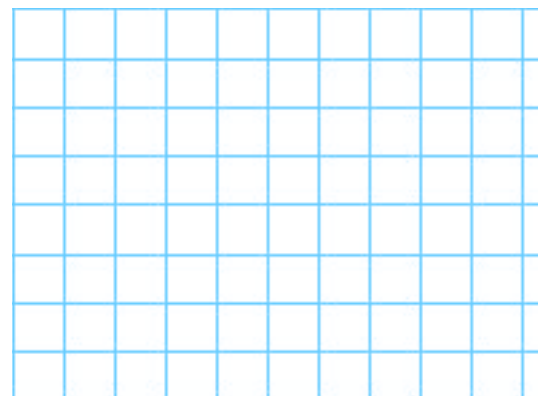
Decide, using mathematics, whether the following are true or false.

If your answer is false, give an example to demonstrate it.

odd number \times odd number = odd number

odd number \times even number = odd number

even number \times even number = odd number





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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HOMEWORK 5: NUMERACY

MENTAL STRATEGIES -
do these in your head

TIMESTABLES -
do these in your head

Literacy challenge: Anagrams!

Rearrange the letters below to form 3 keywords used in maths:

ONVIIDS

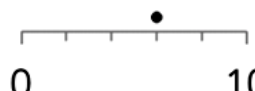
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POSTRANEIO

×	3	9	8	4	2	10	7	5	11	6	12
9											
2											
4											
8											
10											
3											
7											
11											
5											
12											
6											

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	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Value of the dot?  </div>	
9	What is the lowest common multiple of 4 and 5?	
10	What is the cube root of 27?	
Total out of 10		



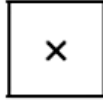
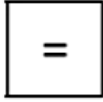


Problem solving!

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

Symbols

Look at these symbols.



Choose two of the symbols to make a correct calculation.

Handwritten mark 12 3 4

1 mark

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

Handwritten mark 12 3 4

1 mark

(a) Every day a machine makes **500 000** drawing pins and puts them into boxes.

The machine needs **150** drawing pins to fill a box.

How many boxes can be filled with the 500 000 drawing pins?

Handwritten mark boxes

1 mark

(b) Each drawing pin is made from **0.23g** of metal.

How many drawing pins can be made from **1kg** of metal?

Handwritten mark

..... drawing pins

2 marks



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). $9 + 7 = \underline{\quad}$ |

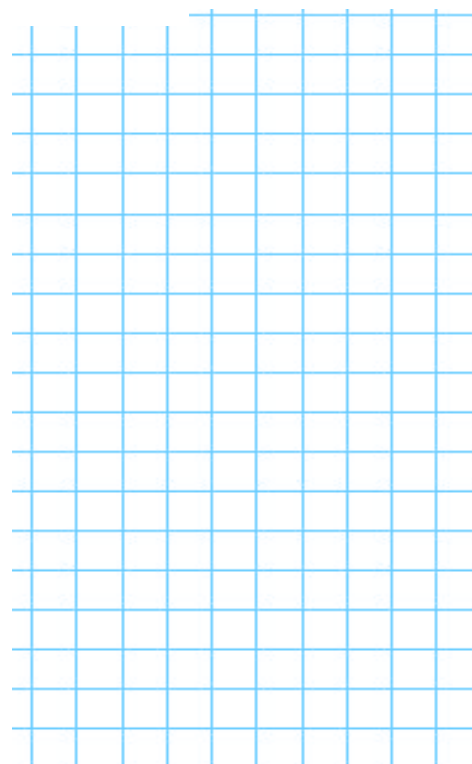
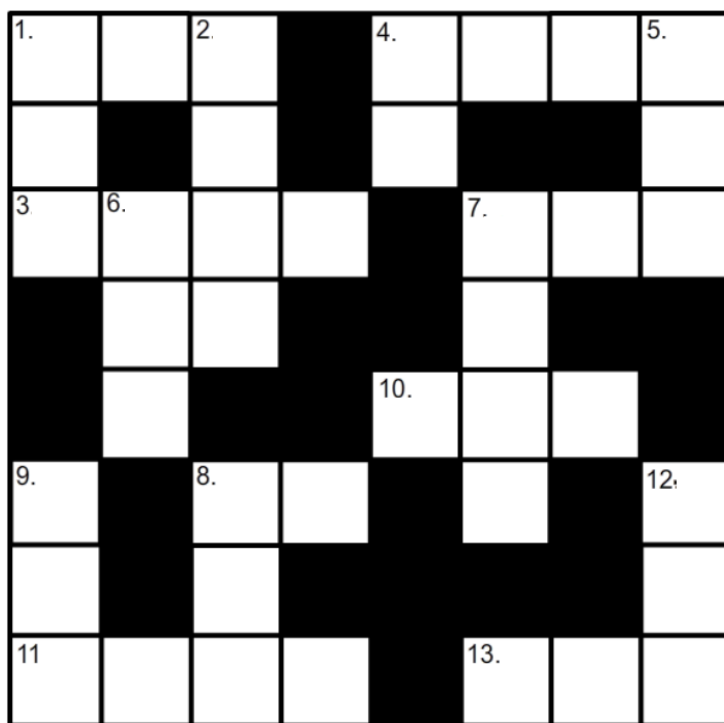
For the cross number, you **MUST** show your working out below.

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) $1223 - 515$



Problem solving!



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

Below is a customer's gas meter readings.

Previous Reading: 5397
Current Reading: 5786

Work out how many units of gas were used.

Fill in the blank squares to make the addition correct.

$$\begin{array}{r} 52\boxed{} \\ + 2\boxed{}9 \\ \hline \boxed{}16 \end{array}$$



Silver ★

Gold ★

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

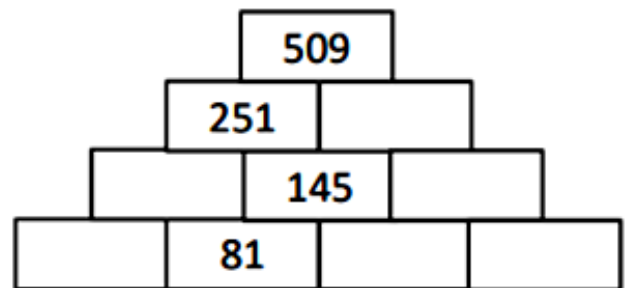


Work out the distance between

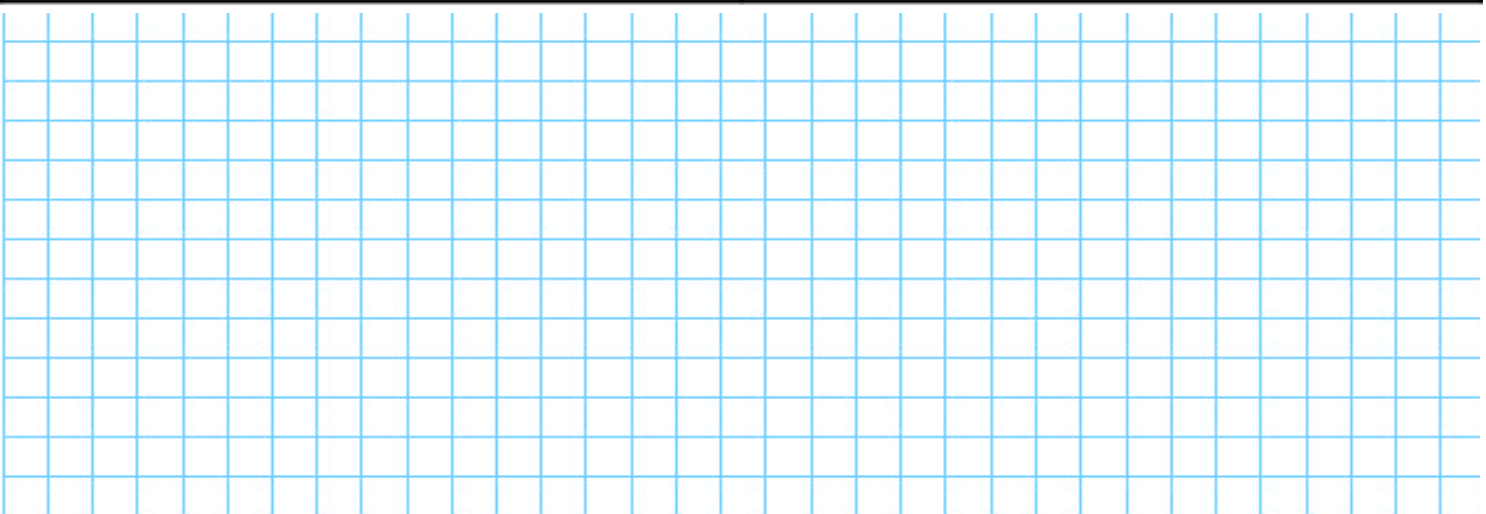
- Egglecliffe and Stockton
- Yarm and Middlesbrough

Silver ★

Use addition and subtraction to complete the pyramid.



Gold ★





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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HOMEWORK 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	12	11	2	5	7	3	9	4	10	8
6											
2											
11											
5											
7											
3											
10											
8											
4											
12											
9											

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		

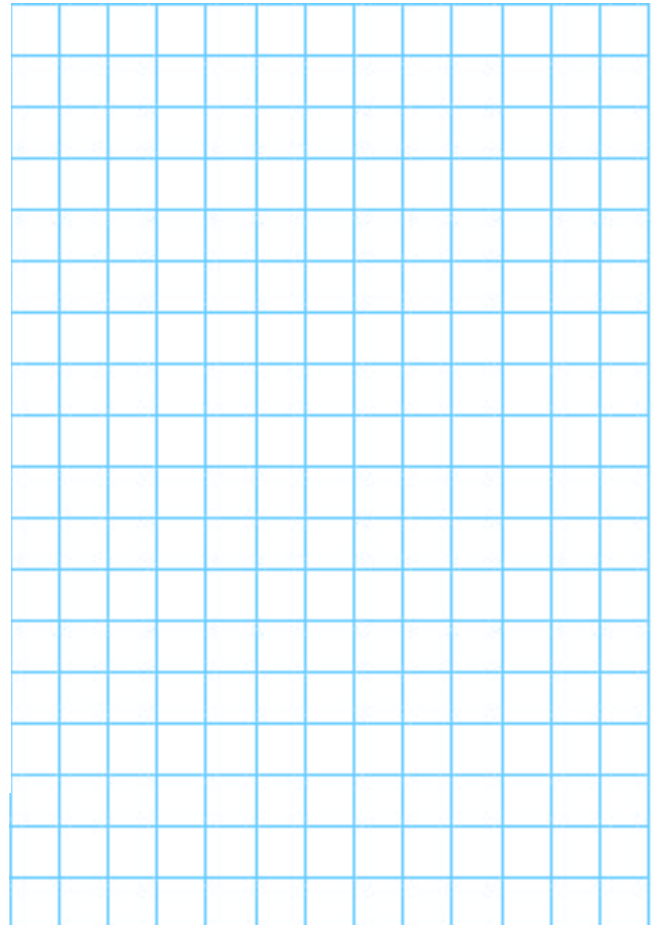
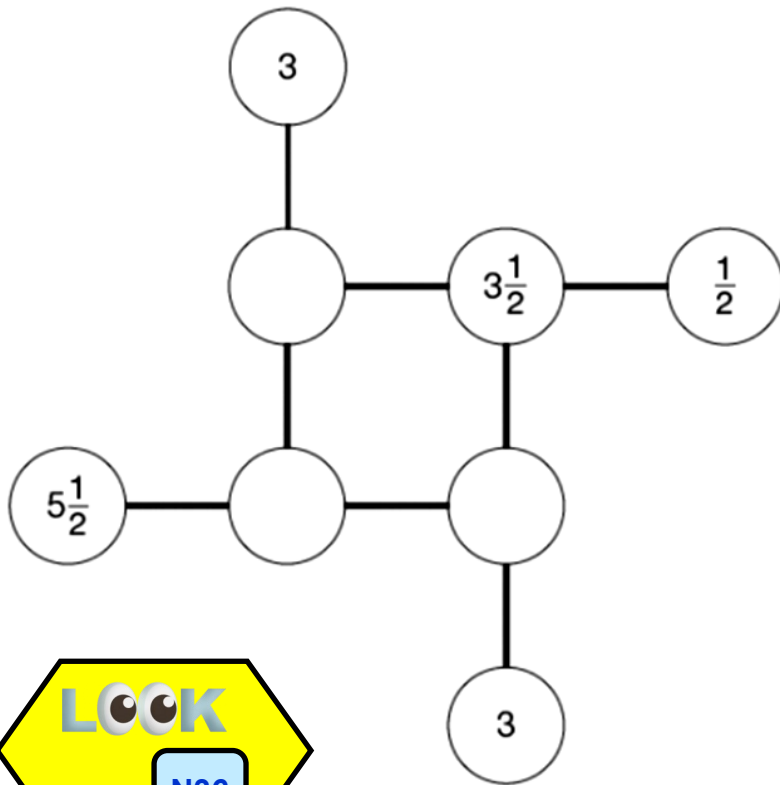


Problem solving!

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

Add to 8

Complete this diagram so that the three numbers in each line add to 8



Halfway

(a) What number is halfway between -2 and 6 ?

.....

1 mark

(b) Complete the sentence.

-10 is halfway between and 8

1 mark



HOMEWORK 9: ANALOGUE CLOCKS

learn by heart

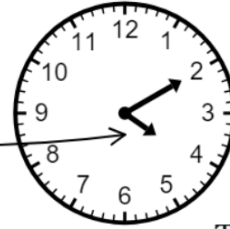
The hour hand is the shorter hand

The minute hand is longer

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

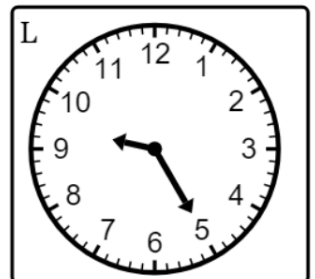
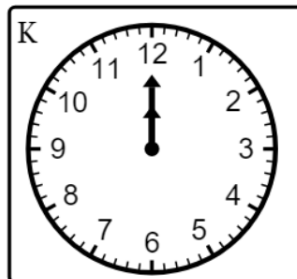
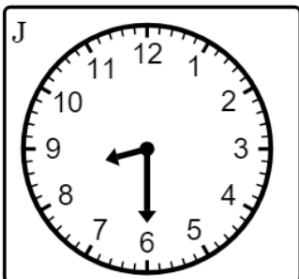
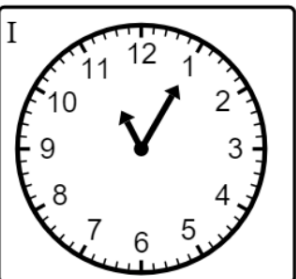
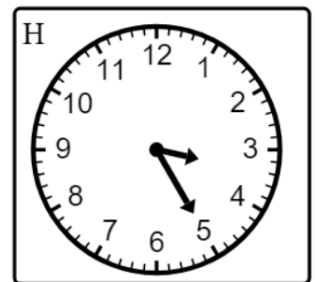
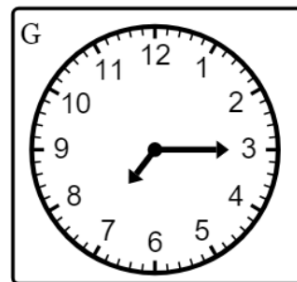
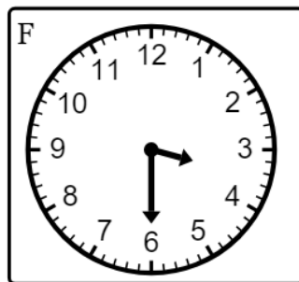
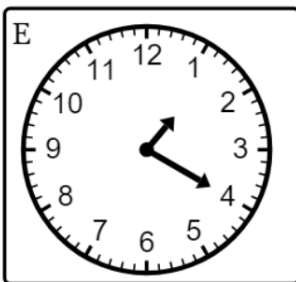
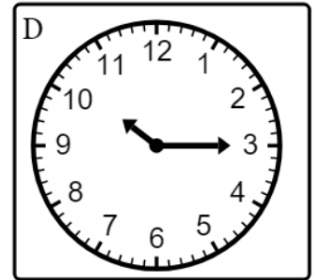
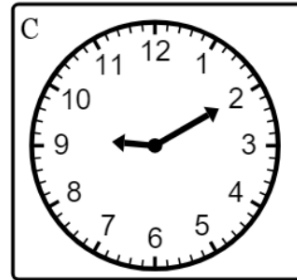
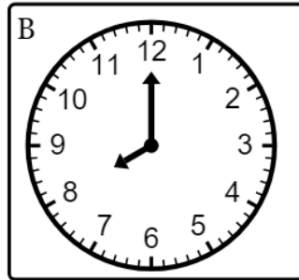
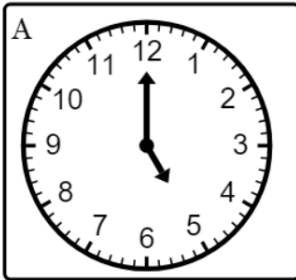
15 minutes past the hour (at 3) is pronounced 'quarter past'

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

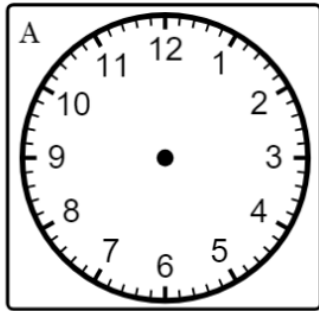


The minute hand is at 2, this means $2 \times 5 = 10$ minutes past the hour, so 4.10

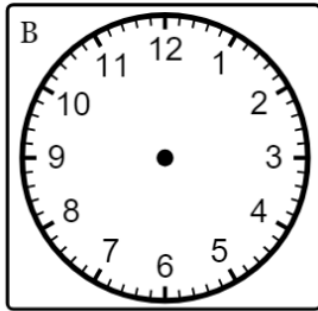
1. Write the correct time under each clock



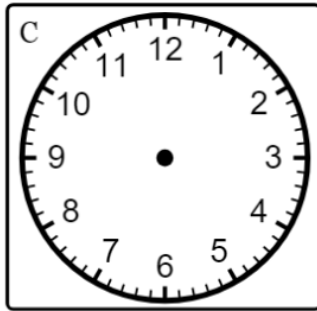
2. On each clock draw the hands in the correct place to show the time given



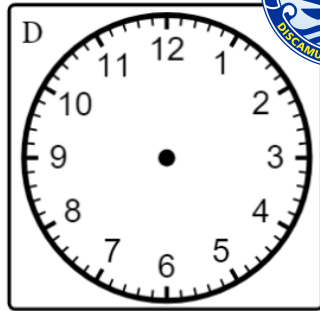
11.05



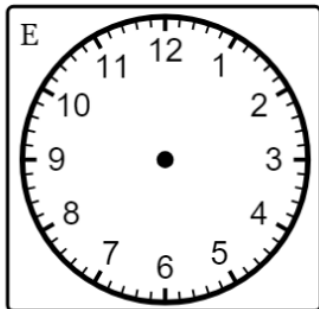
4.15



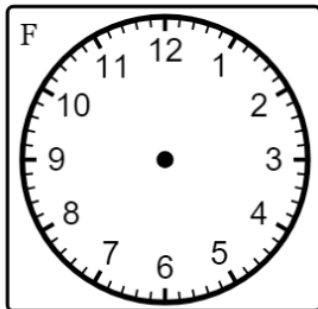
9.20



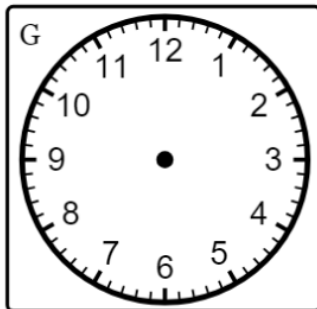
6.30



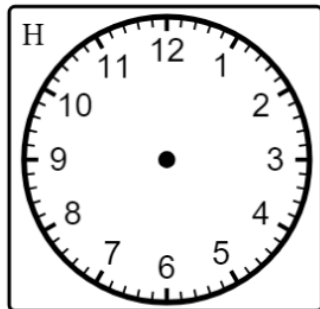
Twenty past eight



Twenty five past seven



Half past one



Ten past twelve

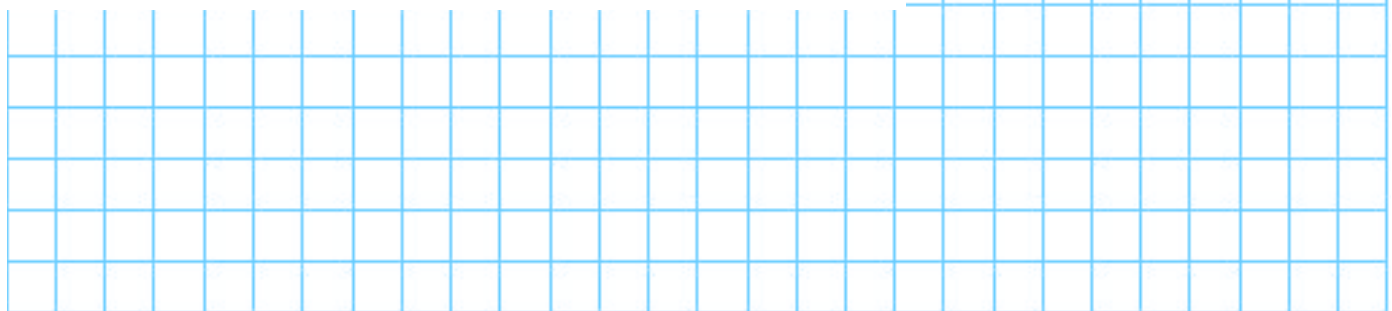
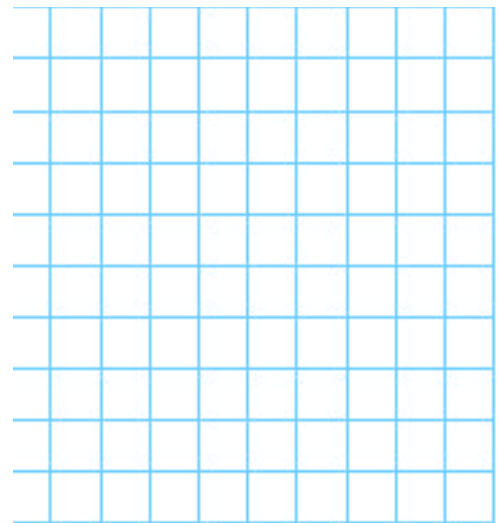
Hayley left her home at 10.40 am.

She walked from her home to the shop.
It took her 14 minutes to walk to the shop.

Hayley was at the shop for 10 minutes.

Then Hayley walked from the shop to her friends house.
It took Hayley 22 minutes to walk to her friends house.

What time did Hayley arrive at her friends house?



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.

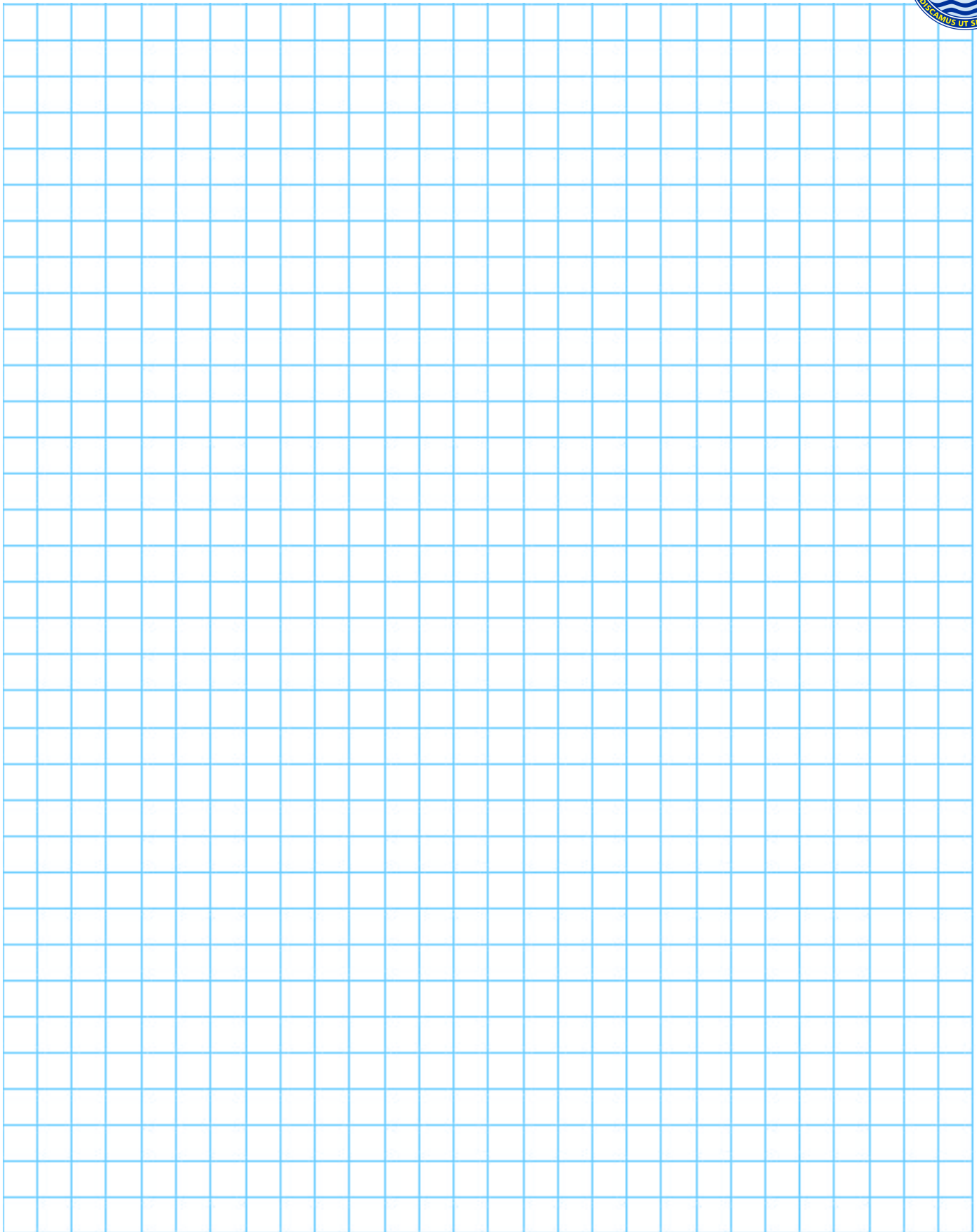
If you have any issues logging in, you must speak to your class teacher as soon as possible.

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.

Additional working out space:





HOMEWORK 12: NUMERACY

MENTAL STRATEGIES -
do these in your head

TIMESTABLES -
do these in your head

Literacy challenge:
Anagrams!

Rearrange the letters below to form 3 keywords used in maths:

QAESUR

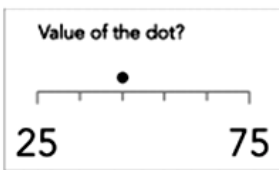
CIMAELDS

BTACRISOTUN

×	8	4	7	12	5	3	9	6	10	2	1
9											
4											
8											
2											
10											
5											
7											
3											
11											
6											
12											

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		

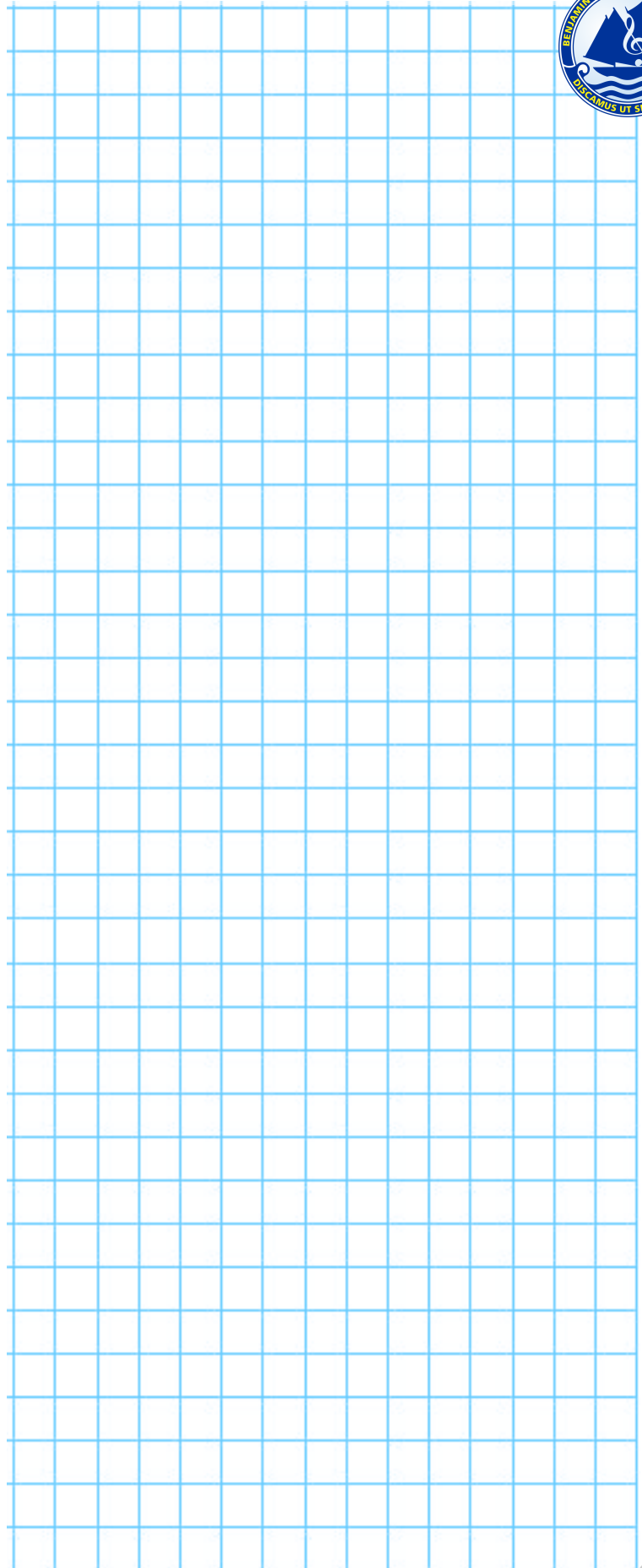
Q	Question	Answer
1	$6 \times 3 = \square$	
2	$14 \div 2 = \square$	
3	$6 \times \square = 36$	
4	$18 \div \square = 6$	
5	$9 \times 3 = \square$	
6	$32 \div 8 = \square$	
7	$\square \times 4 = 24$	
8	$\square \div 10 = 4$	
9	$4 \times 2 = \square$	
10	$30 \div 3 = \square$	
Total out of 10		

Q	Question	Answer
1	$2688 \div 3$	
2	$8 + 8 \div 2$	
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	Value of the dot? 	
9	List the first 4 multiples of 14	
10	What is the value of (-4) cubed?	
Total out of 10		





- 1 How many sides has a pentagon?
- 2 What is nought point one as a percentage?
- 3 How much change from a ten pound note will I receive if I spend three pounds and ninety-nine pence?
- 4 What are eight thirties?
- 5 What number is nineteen more than twenty-six?
- 6 Write in figures the number two thousand and fifteen.
- 7 What is one quarter of eighty-eight?
- 8 What is the sum of sixty-three and twenty-nine?
- 9 How many sevens are there in sixty-three?
- 10 A DVD costs \$9.50. How much change do you get from a \$20 note?
- 11 What is fifty per cent of fifty pounds?
- 12 How many sides has an octagon?
- 13 I think of a number, double it and the answer is seven. What was the number I thought of?
- 14 What is four thousand four hundred and fifty-nine to the nearest hundred?
- 15 What is nought point two multiplied by one hundred?
- 16 Two angles of a triangle add up to one hundred and fifteen degrees. What size is the third angle?
- 17 Write noon in twenty-four hour clock time.
- 18 You are facing east and turn through three right angles clockwise, what direction are you now facing?
- 19 A thermometer in a room shows twenty-two degrees. The temperature outside the room is minus 8 degrees. What is the difference in temperature between inside and outside?
- 20 If you have four thousand and eleven pennies, how much do you have in pounds and pence?



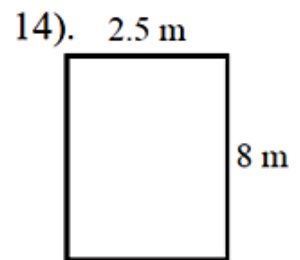
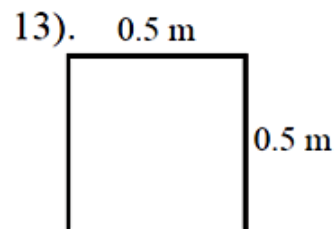
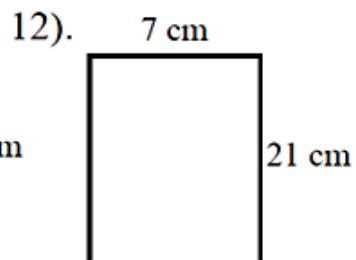
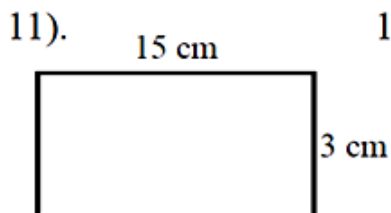
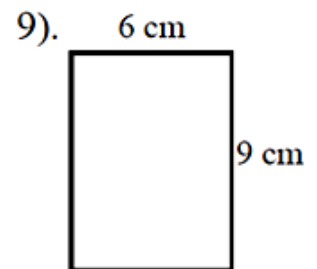
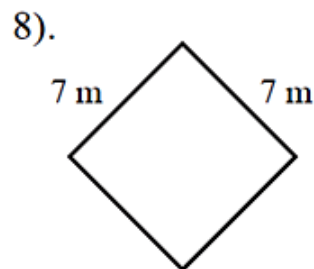
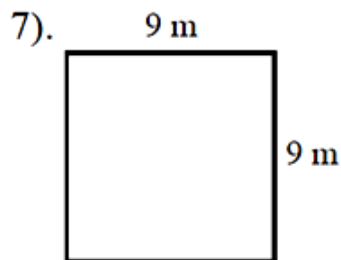
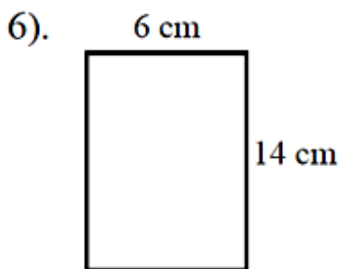
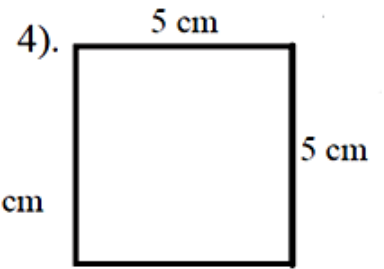
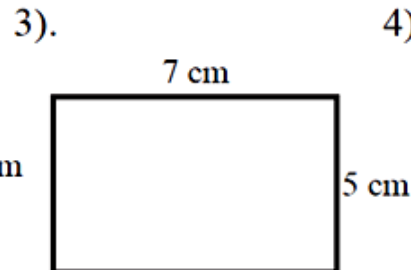
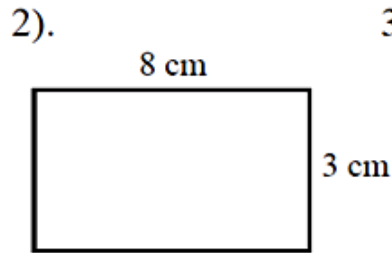
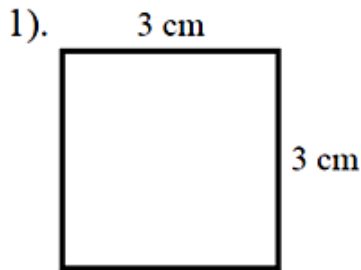


HOMWORK 13: PERIMETER

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).



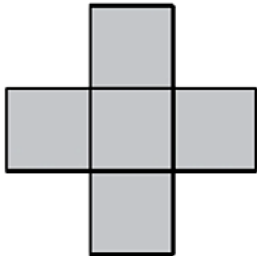
Problem solving!



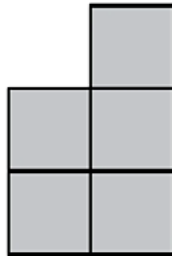
Apply your core skills to the challenge questions below...

Two shapes

Shape A and shape B are each made from five identical squares.



A



B

Not drawn accurately

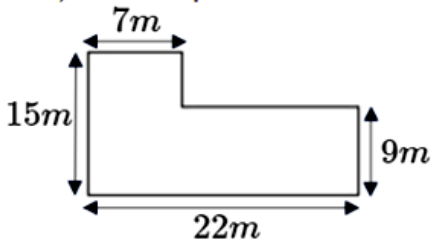


The **perimeter** of shape A is **72cm**.

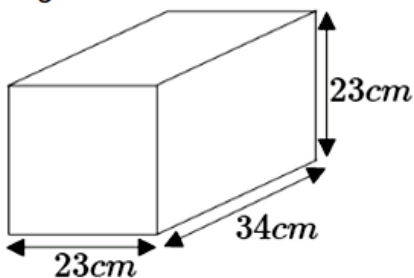
Work out the **perimeter** of shape B.

Q1) A field is $36m$ long by $42m$ wide. David wants to paint a white border around the perimeter of the field. For every $1m$ of field it costs $67p$. How much will it cost to paint the border?

Q2) Find the perimeter:



Q3) Find the total distance of edges:





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

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

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!

(a) 132

1

(b) Indicates two different squares with a total of 132

Accept squares not shaded but a correct pair of numbers indicated in working
 Note to markers:
 Four squares with a total of 264 will usually create a pattern with rotation symmetry of order 2 about the number 66 on the grid,
 eg



However, the correct indications of either 51 and 81 or 61 and 71 do not show this symmetry

Follow-through

For part (b), accept any two squares shaded that sum to their (a)

1

(c) 264

Follow-through

For part (c), accept $2 \times$ their (a), provided their (a) is a three-digit number

the sum of their two shaded squares in part (b) + 132

or

the sum of their two shaded squares in part (b) + their (a) provided their (a) is a three-digit number

1

6	42	18	66	36	12	24	48	54	30	72	60
11	77	33	121	66	22	44	88	99	55	132	110
12	84	36	132	72	24	48	96	108	60	144	120
5	35	15	55	30	10	20	40	45	25	60	50
7	49	21	77	42	14	28	56	63	35	84	70
3	21	9	33	18	6	12	24	27	15	36	30
10	70	30	110	60	20	40	80	90	50	120	100
8	56	24	88	48	16	32	64	72	40	96	80
2	14	6	22	12	4	8	16	18	10	24	20
4	28	12	44	24	8	16	32	36	20	48	40
9	63	27	99	54	18	36	72	81	45	108	90
X	7	3	11	6	2	4	8	9	5	12	10

ANSWERS—WEEK 2

Write a sentence describing what odd and even numbers are.

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

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

Decide, using mathematics, whether the following are true or false. If your answer is false, give an example to demonstrate it.

odd number \times odd number = odd number **TRUE**

odd number \times even number = odd number **FALSE** e.g. $3 \times 6 = 18$

even number \times even number = odd number **FALSE** e.g. $6 \times 6 = 36$

Write down an odd prime number.

Lots of different answers

(1)

Write down an even square number.

Lots of different answers

(1)

Andrea adds two odd numbers.

Is the correct answer, odd, even or either?

odd

even

either

Using the number cards, make



Shown below are 4 number cards.

(a) the smallest possible 2 digit number.

26

(1)

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

8629

(1)

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.

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

ANSWERS—WEEK 5

6	18	54	48	24	12	60	42	30	66	36	72
12	36	108	96	48	24	120	84	60	132	72	144
5	15	45	40	20	10	50	35	25	55	30	60
11	33	99	88	44	22	110	77	55	121	66	132
7	21	63	56	28	14	70	49	35	77	42	84
3	9	27	24	12	6	30	21	15	33	18	36
10	30	90	80	40	20	100	70	50	110	60	120
8	24	72	64	32	16	80	56	40	88	48	96
4	12	36	32	16	8	40	28	20	44	24	48
2	6	18	16	8	4	20	14	10	22	12	24
3	27	81	72	36	18	90	63	45	99	54	108
20	27	81	72	36	18	90	63	45	99	54	108
12	6	18	16	8	4	20	14	10	22	12	24

Q	Question	Answer
1	$9 \times 5 = \square$	45
2	$10 \div 2 = \square$	5
3	$8 \times \square = 8$	1
4	$16 \div \square = 4$	4
5	$8 \times 4 = \square$	32
6	$15 \div 3 = \square$	5
7	$\square \times 2 = 12$	6
8	$\square \div 7 = 1$	7
9	$5 \times 8 = \square$	40
10	$14 \div 2 = \square$	7
Q	Question	Answer
1	What is double 5?	10
2	Half of 63	31.5
3	$26 + 30$	56
4	$98 + 99$	197
5	$22 + 10 = 22 + 8 + \square$	2
6	$3 + 223$	226
7	$20 + 61 = 20 + 60 + \square$	1
8	$\square + 3 = 5$	2
9	$\square + 2 = 20$	18
Q	Question	Answer
1	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

Literacy challenge!

Rearrange the letters below to form 3 keywords used in maths:

DIVISION

CALCULATION

OPERATIONS

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

(a) 3333

Do not accept answer of 3334

(b) 4347

or Shows the value 4347.8(...) or 4348

or

Shows or implies a correct method

- $1000 \div 0.23$

- $(1 \times 1000) \div 0.23$

- $1 \div 0.00023$

1

2

1

[3]

ANSWERS—WEEK 6

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.}

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

Silver ★

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

Work out the distance between

a) Egglecliffe and Stockton
 $7 + 5 = 12 \text{ miles}$

b) Yarm and Middlesbrough
 $2 + 7 + 5 + 6 = 20 \text{ miles}$

Silver ★

Below is a customer's gas meter readings.

Previous Reading: 5397
 Current Reading: 5786

Work out how many units of gas were used.

$$5786 - 5397 = 389 \text{ units}$$

Gold ★

Use addition and subtraction to complete the pyramid.

25	81	64	49
106	145	113	
251	258		
509			

Gold ★

Fill in the blank squares to make the addition correct.

$$\begin{array}{r}
 527 \\
 + 289 \\
 \hline
 816
 \end{array}$$

ANSWERS—WEEK 8

9	54	108	99	18	45	63	27	81	36	90	72
12	72	144	132	24	60	84	36	108	48	120	96
4	24	48	44	8	20	28	12	36	16	40	32
8	48	96	88	16	40	56	24	72	32	80	64
10	60	120	110	20	50	70	30	90	40	100	80
3	18	36	33	6	15	21	9	27	12	30	24
7	42	84	77	14	35	49	21	63	28	70	56
5	30	60	55	10	25	35	15	45	20	50	40
11	66	132	121	22	55	77	33	99	44	110	88
2	12	24	22	4	10	14	6	18	8	20	16
6	36	72	66	12	30	42	18	54	24	60	48
X	6	12	11	2	5	7	3	9	4	10	8

10	What is the value of 7 squared?	49
9	What is the highest common factor of 15 and 27?	3
8	$(-10) - (-5)$	-5
7	If $a = 6$, $b = 3$ and $c = 10$, what is the value of bc/a ?	5
6	$(-48) \div 6$	-8
5	$22.17 + 8.31$	30.48
4	0.45 as a fraction	45/100 or 19/20
3	2.3×7.17	16.491
2	$16182 - 8764$	7418
1	3×991	2973
Q	Question	Answer

10	$18 \div 6 = \square$	3
9	$2 \times 4 = \square$	8
8	$\square \div 8 = 3$	24
7	$\square \times 8 = 72$	9
6	$5 \div 5 = \square$	1
5	$9 \times 7 = \square$	63
4	$10 \div \square = 1$	10
3	$1 \times \square = 10$	10
2	$8 + 2 = \square$	4
1	$2 \times 6 = \square$	12
Q	Question	Answer

10	6:59 am is how many minutes after 6:19 am?	40
9	Write 1:58 pm in 24 hour clock format	13:58
8	$7 \times 8 = 56$, so $56 \div 7 = \square$	8
7	$925 - 920$	5
6	$84 = 34 + \square$	50
5	$124 + \square = 200$	76
4	$42 - 10$	32
3	Halve 2	1
2	$19 + 81$	100
1	$1 + 4$	5
Q	Question	Answer

Literacy challenge:
Missing vowels!

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

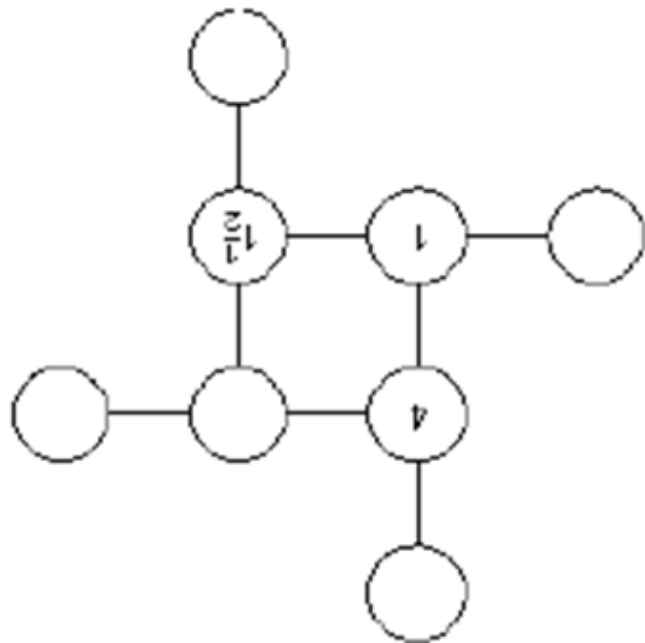
PLACEVALUE
THOUSAND
SUBTRACTION

(b) -28

(a) 2


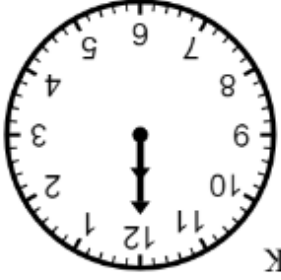






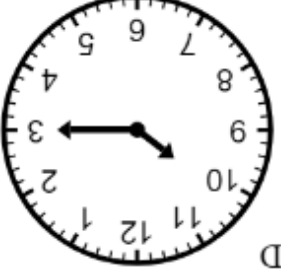



Gives any two correct values in the correct places

Accept equivalent fractions or decimals



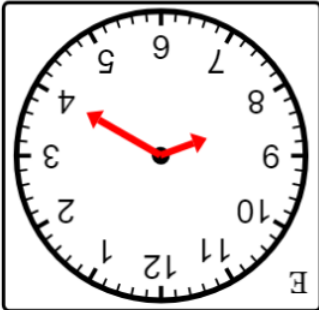
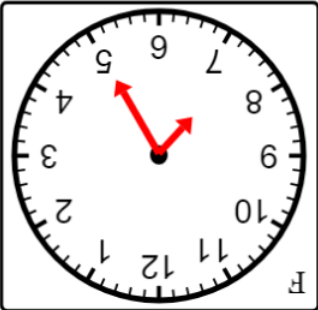
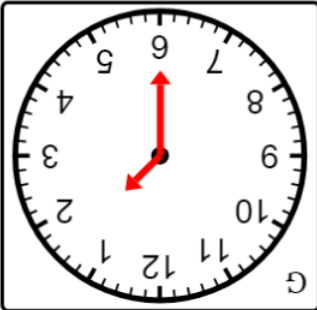
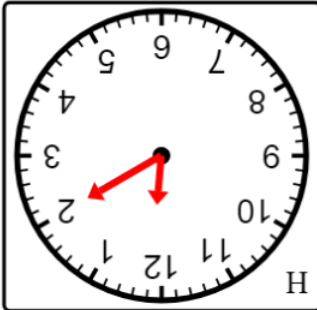
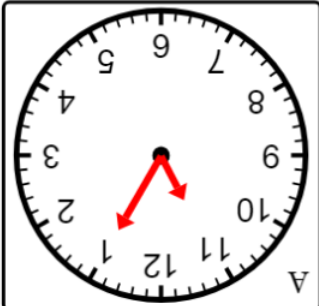
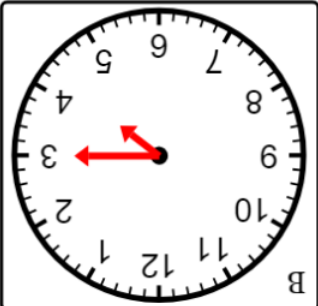
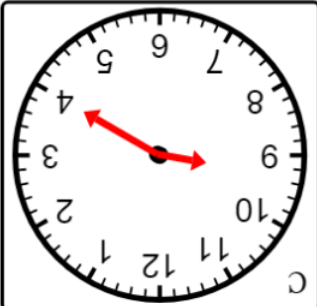
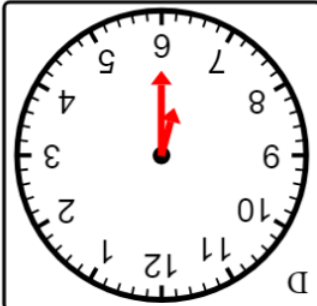
Gives all three correct values, ie

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

Twenty past eight	
Twenty five past seven	
Half past one	
Ten past twelve	
11.05	
4.15	
9.20	
6.30	

Hayley left her home at 10.40 am.

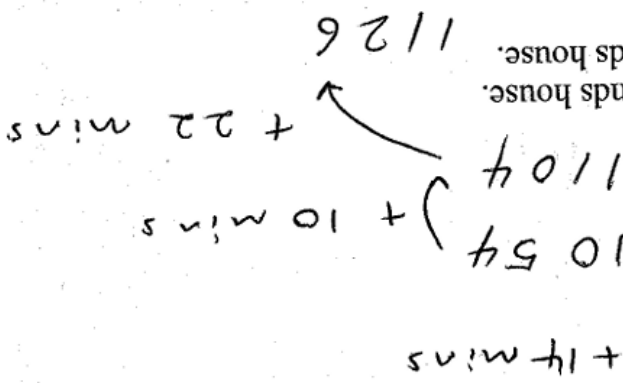
She walked from her home to the shop.

It took her 14 minutes to walk to the shop.

Hayley was at the shop for 10 minutes.

Then Hayley walked from the shop to her friends house. It took Hayley 22 minutes to walk to her friends house.

What time did Hayley arrive at her friends house?



11.26 am

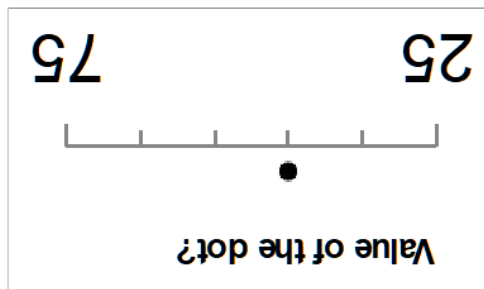
ANSWERS—WEEK 10

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

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



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

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

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

Literacy challenge:
Anagrams!

Rearrange the letters below to form 3 keywords used in maths:

SQUARE

DECIMAL

SUBTRACTION

12	96	48	84	144	60	36	108	72	120	24	12
6	48	24	42	72	30	18	54	36	60	12	6
11	88	44	77	132	55	33	99	66	110	22	11
3	24	12	21	36	15	9	27	18	30	6	3
7	56	28	49	84	35	21	63	42	70	14	7
5	40	20	35	60	25	15	45	30	50	10	5
10	80	40	70	120	50	30	90	60	100	20	10
2	16	8	14	24	10	6	18	12	20	4	2
8	64	32	56	96	40	24	72	48	80	16	8
4	32	16	28	48	20	12	36	24	40	8	4
9	72	36	63	108	45	27	81	54	90	18	9
X	8	4	7	12	5	3	9	6	10	2	1

- 1. 5
- 2. 10%
- 3. £6.01
- 4. 240
- 5. 45
- 6. 2015
- 7. 22
- 8. 92
- 9. 9
- 10. £10.50
- 11. £25
- 12. 8
- 13. 3.5
- 14. 4500
- 15. 20
- 16. 65°
- 17. 1200
- 18. north
- 19. 30°
- 20. £40.11

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

Q1) Perimeter
 $= 42 + 42 + 36 + 36$
 $= 156m$
 Total cost
 $= 67 \times 156 = 10452p$
 $= \text{£}104.52$

Q2) Perimeter is
 $= (22 + 15 + 7 + 6 + 15 +$
 $9)$
 $= 74m$

Q3) Perimeter is
 $= (4 \times 23) + (4 \times 23)$
 $+ (4 \times 34) = 320cm$

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

