Benjamin Britten Academy of Music and Mathematics

MATHEMATICS HOMEWORK BOOKLET

Year 7 Book C AUTUMN TERM



NAME:



How does it work?

- One homework will be seta 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	Adding and subtracting	
3	Research task	
4	Numeracy	
5	Perimeter	
6	Mathswatch	
7	Numeracy	
	ŕ	
8	Multiplying and dividing	
8 9	,	
	Multiplying and dividing	
9	Multiplying and dividing Real life maths	

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.

Mathswatch

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.

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



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.





HOMEWORK 1: NUMERACY

<u>Literacy challenge —</u> <u>Missing letters!</u>

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

$$A_D_T_ON$$

M_LTI_L_CAT_O_

ARI_H_ETI_

minsgo!	
maths! Just 5	
Quick	

	*	
A1	6 × 9	
A2	9 - 2	
A3	2 - 0	
A4	4 + 10	
A5	4 × 7	
A6	8 – 4	
A7	8 + 10	
A8	8 × 10	
A9	7 × 5	
A10	2 × 8	

Recall and Recap

MENTAL STRATEGIES - do these in your head

TIMESTABLES – do these in your head

Q	Question	Answer
1	2 + 3	
2	89 + 11	
3	What is half of 6?	
4	125 – 10	
5	177 + 🗆 = 270	
6	53 = 23 + □	
7	805 - 804	
8	4 × 1 = 4, so 4 ÷ 4 = □	
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 × 9 = 🗆	
2	24 ÷ 3 = □	
3	10 × □ = 80	
4	6 ÷ □ = 3	
5	1 × 2 = 🗆	
6	28 ÷ 7 = □	
7	□ × 6 = 54	
8	□ ÷ 2 = 5	
9	3 × 9 = □	
10	4 ÷ 4 = 🗆	
Tot	tal out of 10	





Problem solving!

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



Two digits

Here are four digit cards.

1

2

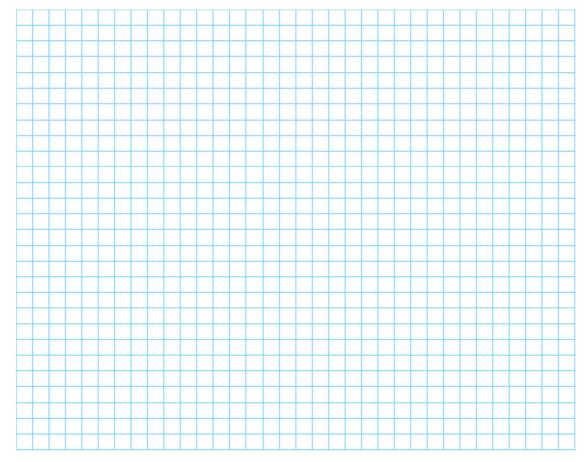
3

4

Show all the different two-digit numbers that are bigger than 30 that you can make using these cards.

You can use the cards more than once.





2 marks



HOMEWORK 2: ADDING AND SUBTRACTING

Recall and Recap: Numeracy skills

Write your answers here:

Applying your skills

Calculate 63 + 38

Bronze
Calculate 63 - 38



Find the difference between 804 and 357.

Bronze

Find the sum of 634 and 173.



Problem solving!

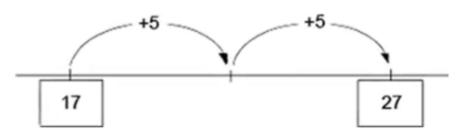
N13, N14

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

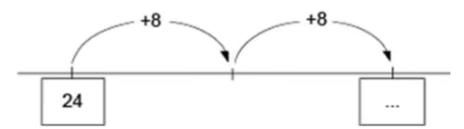
Two steps

This question is about making two steps on a number line.

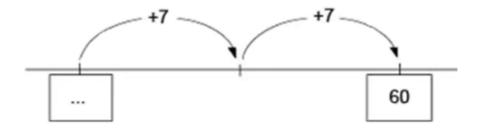
For example:



(a) Fill in the missing numbers on the number lines below.



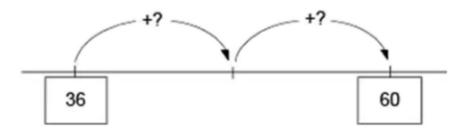
1 mark



1 mark

(b) On the number line below, both steps are the same size.

How big is each step?



1 mark



HOMEWORK 3: THE SIEVE OF ERATOSTHENES

You will need to complete some research for this homework task. Try and find the answers for 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) <u>Cross out all the multiples of 2 on your grid.</u> You would cross out the numbers 4, 6, 8, 10, 12, ...

These numbers have been 'sieved' out.

- 3) <u>Circle</u> 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) <u>Circle</u> 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) <u>Circle</u> 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

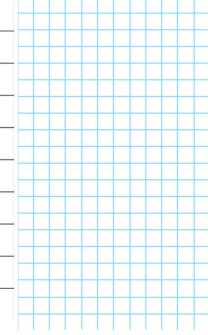


HOMEWORK 4: NUMERACY

<u>Literacy challenge —</u> Missing letters!

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

7 × 10 A2 2 + 0 A3 15 ÷ 3 A4 10 × 6 A5 7 × 2 A6 A7 16 ÷ 4 A8 7 × 4 A9 4 × 9 A10 6 × 7



Recall and Recap

MENTAL STRATEGIES -

do these in your head

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

TIMESTABLES -

do these in your head

Q	Question	Answer	
1	9 × 5 = □		
2	10 ÷ 2 = □		
3	8 × □ = 8		
4	16 ÷ □ = 4		
5	8 × 4 = □		
6	15 ÷ 3 = □		
7	□ × 2 = 12		
8	□ ÷ 7 = 1		
9	5 × 8 = □		
10	14 ÷ 2 = □		
Tot	Total out of 10		



Problem solving!



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

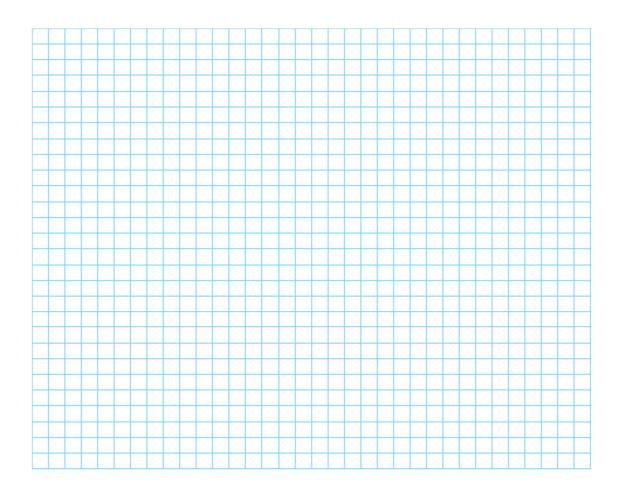


Working out

Write the missing numbers.

1 mark

1 mark

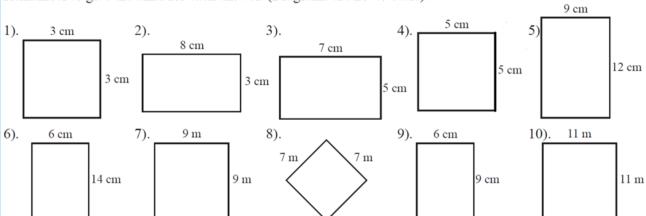




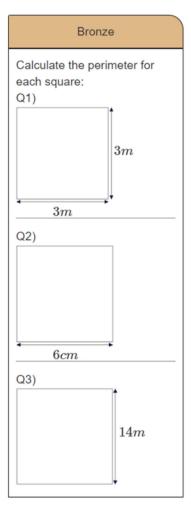
HOMEWORK 5: PERIMETER

Recall and Recap: Perimeter problems

Find the perimeter of the following rectangles and squares. Remember to give the units for each answer. (Diagrams are not to scale).



Applying your skills





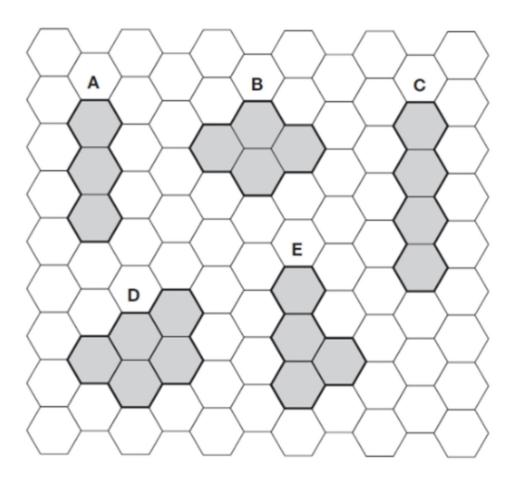
Problem solving!



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

G8 G8

Here are five shapes on a regular grid.



Which shape has the longest perimeter?

1 mark

Which shape has only one line of symmetry?

1 mark



HOMEWORK 6: 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.

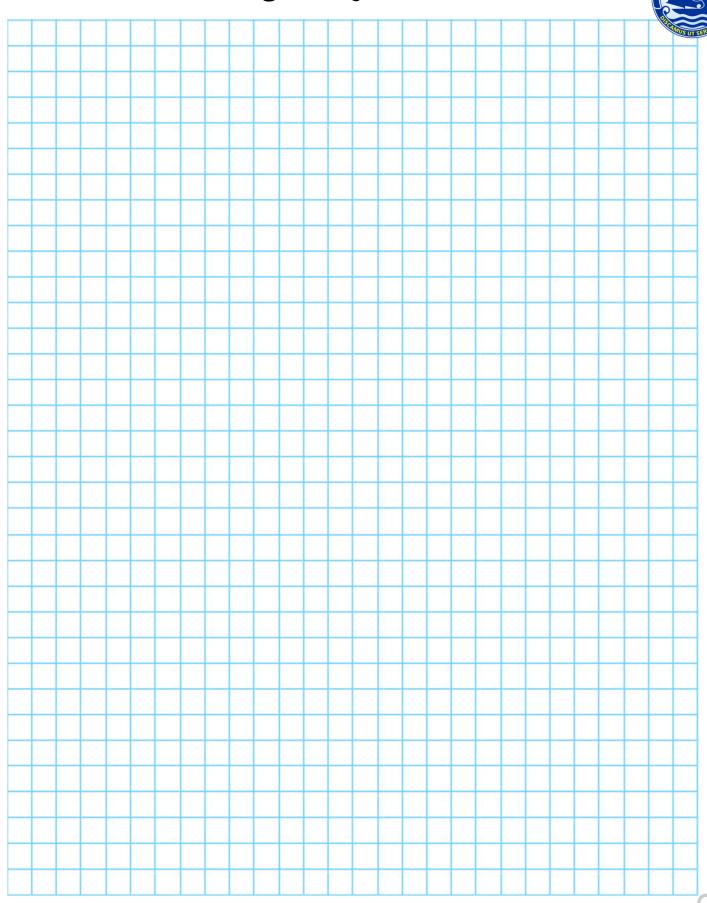
Below are the log in instructions you will need in order to access and complete this homework task.

If you have any issues logging in, you <u>must</u> 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 <u>before</u> the due date and they will print a copy for you to complete.

Additional working out space:





HOMEWORK 7: NUMERACY

<u>Literacy challenge —</u> <u>Missing letters!</u>

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

T_OU__ND

SU_TR_CT__N

Quick maths! Just 5 mins...go!

	*			+	1				
A1	2 + 10								
A2	1+1		+	+					
A3									
A4	1 + 6	_	\pm			- 2			
A5	8 + 8	_							
	10 – 4					. 2			
A6	6 × 8								
A7	2 ÷ 2								
A8	16 ÷ 4		1						
A9	8 × 1							- 7	
A10	7 + 6								

Recall and Recap

MENTAL STRATEGIES -

do these in your head

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 = \Box	
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	

TIMESTABLES -

do these in your head

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 = □	
Tot	tal out of 10	



Problem solving!

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

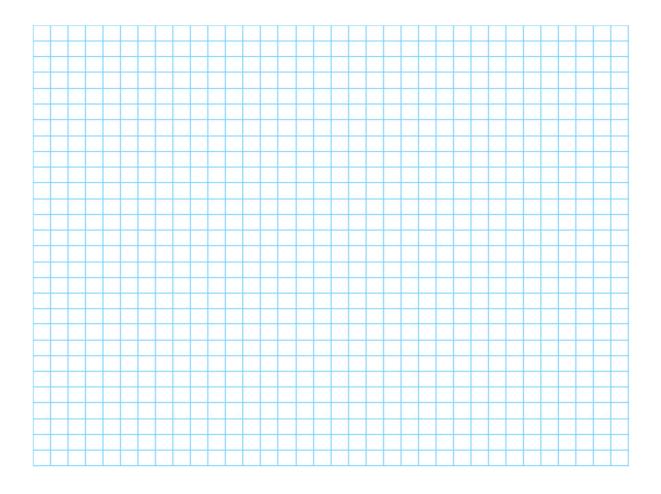


Missing numbers

Write the missing numbers in the boxes.

1 mark

1 mark





HOMEWORK 8: MULTIPLYING AND DIVIDING

Recall and Recap: Core skills

Solve the sum and write the answer in words in the space provided.

Now search for the words in the answer grid below. The answer may be in any direction!!

The first one has been done for you.

2). 5 x 2 = 17). 15 ÷ 5 = 18). 4 x 7 =	
3). 3 x 5 = 18). 4 x 7 =	
4). 2 x 10 = 19). 6 x 10 =	
5). 5 x 6 = 20). 36 ÷ 4 =	
6). 4 x 3 = 21). 5 x 7 =	
7). 8 x 2 = 22). 3 x 12 =	
8). 3 x 6 = 23). 9 x 5 =	
9). 20 ÷ 5 = 24). 10 x 8 =	
10). 5 x 5 = 25). 12 x 4 =	
11). 50 ÷ 10 = 26). 5 x 11 =	
12). 2 x 11 = 27). 10 x 10 =	
13). 4 x 6 = 28). 28 ÷ 4 =	
14). 40 ÷ 5 = 29). 8 x 4 =	
15). 10 x 4 = 30). 18 ÷ 3 =	

T W O A T H I R T Y T W O E B K C T WWGLWDKP IGHT C E TAG T F G S WOPT CMEGRXRE N T VELKBXHMRXB Q M R TLEAYUJ YEIGH ONEHUNDR E F G T IXTYCF





Problem solving!



Fill in the times table grids below:

X	2	6	4	7	X	5	2	4	3
3					6				
5		30			3				
2					2				
4					8				



Extension:

Calculators

You can buy a new calculator for £1.25



In 1979 the same type of calculator cost 22 times as much as it costs now.

How much did the same type of calculator cost in 1979?

Show your working.





HOMEWORK 9: REAL LIFE MATHS

Everybody loves cake - like this cherry cake. Yum! And another thing everybody likes is maths.

There's a surprising amount of overlap between these two activities - a lot of real-life maths involved in following a recipe.

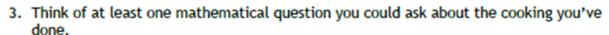
The recipe given below is delicious and easy to make at home. If you want to use a different recipe or to bake bread, or cook your favourite meal, go for it!



Your teacher will tell you how they'd like you to present your work.

Task:

- 1. Follow a recipe, either the one below or any of your own choice.
- 2. Make a note of all the maths involved.



There are lots of examples of mathematical questions on the next page. Explore some of them as well as some of your own. They are graded from one to three cherries.

Cherry and almond cake

Ingredients

175g self-raising flour

1/2 tsp baking powder

200g softened butter

200g caster sugar

4 eggs

85g ground almonds

1/2 tsp almond extract

300g glacé cherries

100ml milk

2tbsp flaked almonds

Method

Heat oven to 160°C (140°C fan, gas mark 3).

Rinse the cherries in hot water to remove the syrup, cut them in half and cover in flour to stop them sinking to the bottom of the cake.

Beat the butter and sugar together until light and fluffy.

Beat the eggs and add them in a little at a time.

Add in the almond extract.

Sieve the flour and baking powder and gently fold into the mixture with the ground almonds.

Mix in the cherries and the milk.

Put your mixture in a greased 20cm (7 inch) round tin. Bake for 1-14 hours.

Allow cake to cool before removing from its tin.



Now solve the problems below:



Cake baking maths questions:

G10, N7c

Here are some examples of *cake maths* questions to have a go at. They are graded in difficulty from one to three cherries.

Ask your own questions too.

Consider how you are going to present your work to your teacher. You should include a photo of your cake, any calculations you have made, information you have researched and conclusions you have come to.

Angles



Would you like an acute, obtuse or reflex sized slice of cake? Explain why.



Estimate the angle of the piece of cake in the photo.



How many slices of this size could I cut the whole cake in to?

Money



Calculate the total cost of all the ingredients in this cake.



How much per slice?



HOMEWORK 10: NUMERACY

<u>Literacy challenge —</u> <u>Missing letters!</u>

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

DE_IM_LS

S_BT_AC_ION

Quick maths! Just 5 mins...go!

	*	,							
A1	*								
^'	6 × 9								
A2									
	8 × 4								
A3									
	9 – 2					- 1			
A4									
	5 + 0								
A5									
	3 + 8								
A6									
	3 ÷ 1								
A7			т						
	5 – 1								
A8									
	10 ÷ 5				-	1 6			
A9	12.0	_	-		-				-
	7 + 2		-	- 7		-		- 1	
A10									
	8 + 0								

Recall and Recap

MENTAL STRATEGIES -

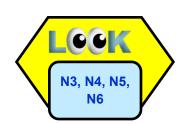
do these in your head

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

TIMESTABLES -

do these in your head

a	Question	Answer				
1	6 × 3 = □					
2	14 ÷ 2 = □					
3	6 × □ = 36					
4	18 ÷ □ = 6					
5	9 × 3 = 🗆					
6	32 ÷ 8 = □					
7	□ × 4 = 24					
8	□ ÷ 10 = 4					
9	4 × 2 = □					
10	30 ÷ 3 = □					
Total out of 10						





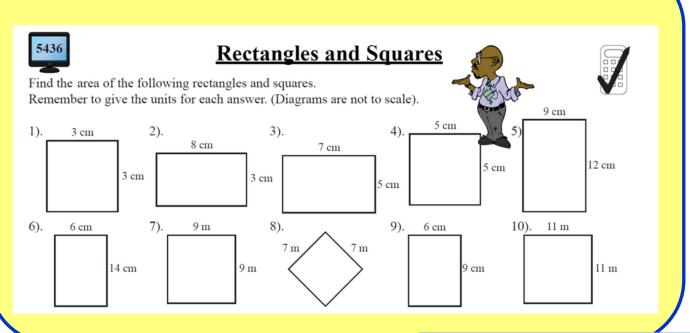
Cistercian Numerals!

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



HOMEWORK 11: AREA OF 2D SHAPES

Recall and Recap: Area problems

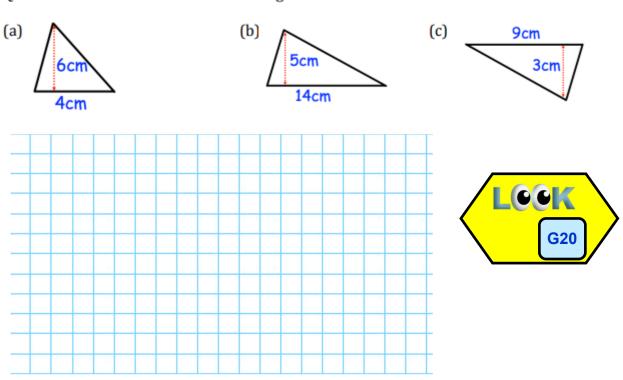


Area of a rectangle = base x height

Area of a triangle = $\frac{1}{2}$ x base x height

Question 2: Find the area of each triangle.

Applying your skills



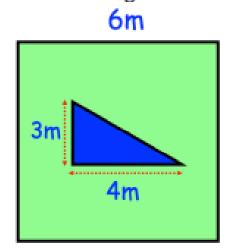


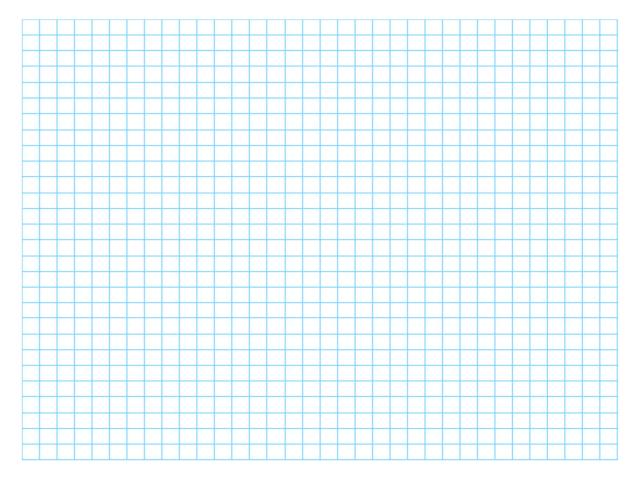


Apply your core skills to the challenge questions below...



Shown is a square garden with a triangular pond. Find the area of the garden that is grass.







HOMEWORK 12: 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.

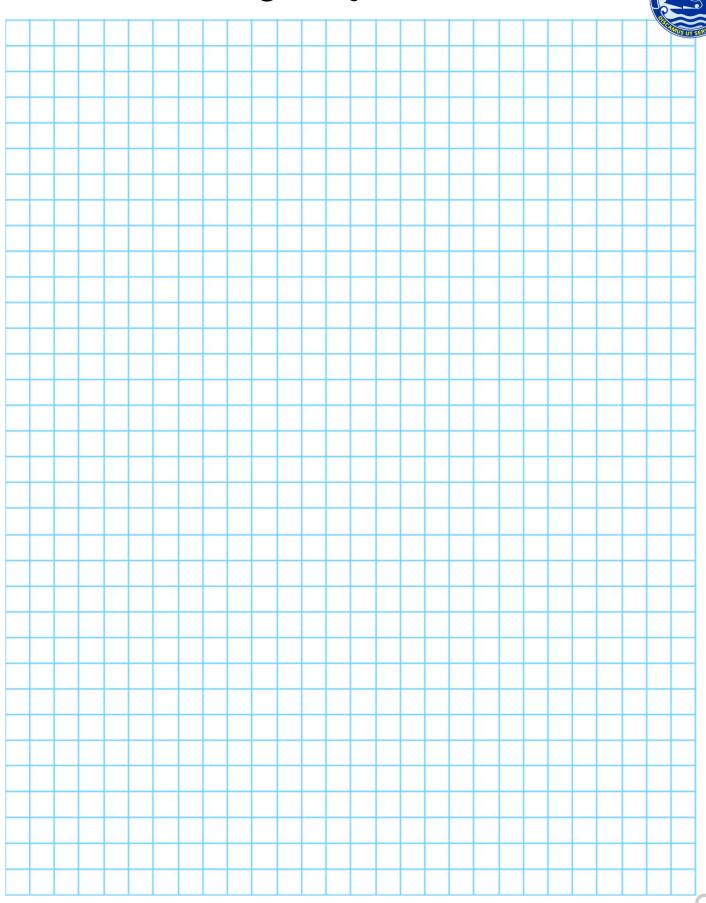
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Password— your DOB (format: monthDYYYY)

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

Additional working out space:



ANSWERS—WEEK 1

3	9f
1	ea 35
1	8A 08
1	81
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3	85 28
3	⊅ l
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1	Ţ
1	ta 43
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19w2nA	Question	ď
81	□ = 6 × Z	١ -
8	□ = 2¢ ÷ 3 = □	7
8	08 = □ × 0f	3
2	£ = □ ÷ 9	7
2	□ = Z × I	g
Þ	□ = ∠ ÷ 8Z	9
6	7 = 9 × □	L
10	S = S ÷ □	8
72	□ = 6 × €	6
l.	$\Box = v \div v$	10

19w2nA	Question	ď
S	2 + 3	l
100	11 + 68	2
3	\$3 to flad ai tadW	3
112	125 – 10	7
86	072 = □ + 771	9
30	23 = ∑3 + □	9
ı	108 – 208 –	L
į.	□ = 4 ÷ 4 os ,4 = ↑ × 4	8
mq S1:8	Write 20:12 in 12 hour clock format	6
58	9:37 pm is how many minutes after 9:08 pm?	10

• 31, 32, 34, 31, 41, 42, 43

31, 32, 33, 34, 41, 42, 43, 44
 Correct number(s) repeated

Number(s) given with digits repeated

eg, for 2m accept

eg, for 2m accept

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35, 33, 34, 41, 42

[7]

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7

ANSWERS—WEEK 2





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• 12+15			
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• 12, 12			
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Both step sizes shown	i		
 12 shown correctly on the diagram, but 24 given as the answer 			
eg, do not accept			
If unambiguous, but do not accept incorrect further working			
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• 12 cm			
eð; accept			
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Units given	i		
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ANSWERS—WEEK 4

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1	SA
1	07
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	□ = Z ÷ ⊅↓	10
040	□ = 8 × G	6
L	l = ∠ ÷ □	8
9	□ × 2 = 12	L
S	□ = £ ÷ 3 l	9
35	□ = ≯ × 8	g
Þ	† = □ ÷ 9l	7
l l	8 = □ × 8	3
S	□ = 2 ÷ 01	2
97	□ = 9 × 6	l
19wenA	Question	ď
81	□ + S = 20	10
7	9 = € + □	6
l l	□ + 09 + 07 = 19 + 02	8
526	3 + 223	L
7	□ + 8 + 22 = 01 + 23	9
761	66 + 86	g
99	76 + 30	Þ
3.15	Halve 63	3
01	What is double 5?	2
7	01 = 9 + □	l
19w2nA	Question	Ö

[Z] T 9Z 4.7

ANSWERS—WEEK 5

(a) C Accept 18

(b) D

(c)

(c)

ANSWERS—WEEK 7

3	□ = 9 ÷ 81	01
8	□ = ≯ × Z	6
24	£ = 8 ÷ □	8
6	Z7 = 8 × □	L
ı	□ = g ÷ g	9
63	□ = ∠ × 6	9
10	l = □ ÷ 0l	Þ
10	01 = □ × 1	3
7	□ = 2 ÷ 8	2
12	□ = 9 × Z	l
19wenA	Question	ď

19W2nA	Question	ď
g	7+1	l
100	18 + 61	2
Į.	Lavise 2	3
35	42 – 10	7
94	124 + □ = 200	9
90	□ + 7€ = 34 +	9
g	926 – 920	L
8	□ = 7 ÷ 9∂ os ,8∂ = 8 × 7	8
13:58	Write 1:58 pm in 24 hour clock format	6
07	Sms 61:8 refte after 6:39 am?	01

13	01A
8	6 A
†	8 A
l .	ΤA
84	9∀
9	\$A
91	₽¥
L	٤A
7	SA
12	۱A
*	



ANSWERS-WEEK 8

- 18 27 80 8). 16). 24).
- 16 40 45
- 7). 15). 23).
- 12 8 36 6
- 6). 14). 22). 30).
- 30 24 35 32
- 5). 13). 21). 29).
- 20 22 9 7
- 4). 12). 20). 28).
- 15 5 60 100
- 3). 11). 19). 27).
- 10 25 28 55
- 2). 10). 26).

```
eg, for 1m do not accept
      For 1m, at least some multiplication must be shown or implied
                                             noilibbe baleaqar si borlaM
                                                                20<u>0</u>
220
                                                                OSZ
                                                                × 33
                                                                132
                                                                      бә
                                       Do not accept conceptual error
                                                                           (10LLD) 072
                                                           • 11 \times 5.60 = 10 \times 2.60 + 2.60
                                                            12.50 + 12.50 + 1.25 + 1.25
               than one computational error, but with the decimal point correctly positioned
            Shows a complete correct method for how to multiply 1.25 by 22, with not more
                                                                                   57.5
                                                                                  • 5750
                                                                                   5.75 ·
                                                                                       бә
                                                                     Shows the digits 275
7
                                                                                  6 27.50
```

Answers read from the top row downwards, left to right. The missing numbers are in bold.

....+ 32.1 + 32.1

[3]

τ

 $\cdot (2$

30 12 24 18 15 6 12 9 10 4 8 6 40 16 32 24

9 18 17 51 10 50 32 4 15 8 14 8 54 16 58

ANSWERS-WEEK 10

Answer	Question	Ø
81	0 × 3 = □	l
L	□ = Z ÷ ⊅l	2
9	9€ = □ × 9	3
3	9 = □ ÷ 81	Þ
72	□ = £ × 6	g
Þ	32 ÷ 8 = □	9
9	> 4 = 24	L
01⁄2	⊅ = 0↓ ÷ □	8
8	□ = Z × ⊅	6
10	30 ÷ 3 = □	10

Answer	Question	Ø
9	0 + 2 = 10	l
9	Double 3	2
3.71	Halve 35	3
553	173 + 50	Þ
١6	<i>tt + Lt</i>	9
2	32 + 10 = 32 + 8 + □	9
299	1 + 200	L
8	□ + 09 + 0† = 89 + 0†	8
9	3 + 2	6
16	v + □ = 20	١٥

	8	01A
	6	6₳
	2	8A
	Þ	ΤA
	3	9 A
	II.	2A
	S	ÞΨ
	L	εA
	32	SA
	2 4	۱A
İ	¥	

Benjamin Britten	Academy	of Music	and Mat	hematic
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Cistercian Numerals!

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

ANSWERS-WEEK 11

		22.75 m²	.(51	$50 \mathrm{m}^2$.(41	o.25 m²	.(£1
147 cm²	.(21	45 cm ²	.(11	121 m^2	.(01	$54 \mathrm{cm}^2$.(6
_z w 6†	.(8	² m 18	.(7	84 cm^2	.(9	$108 \mathrm{cm}^2$.(5
za cm²	.(4	32 cm ²	$\cdot(\varepsilon$	$24 \mathrm{cm}^2$.(2	_z wo 6	.(1

Apply
Question 1 – 30m²

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:

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

