

MATHEMATICS HOMEWORK BOOKLET

Benjamin Britten Academy of Music and Mathematics

Year 7 Book B
AUTUMN TERM
Answers



NAME:



Mathematics homework

Contents

How does it work?

- One homework will be set a week
- The 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 mathswatch, you need to see your class teacher
 - If you need help with the homework task, you must peak to your teacher before the due date
- The school runs a homework club. Speak to your teacher to find out which day.
- If you lose your booklet a copy can be found on your class google classroom or on the schools website.
 - Your teacher will give you information on where to find the answers.

WEEK	Numeracy	Due
1	NUMERACY	
2	ODD AND EVEN	
3	RESEARCH TASK	
4	MATHSWATCH	
5	SEQUENCES	
6	SUBSTITUTION	
7	MATHSWATCH	
8	RESEARCH TASK	
9	NUMERACY	
10	MATHSWATCH	
11	PERIMETER	
12	NUMERACY	
13	ANALOGUE CLOCK	
14	MATHSWATCH	

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. Your teacher will either upload these to your class google classroom and expect you to mark it in class. Speak to your teacher if you are unsure.

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

Login details

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

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

To log in, all students should use the **Single Sign-on service** through either Google or Microsoft. Click either the Google or Microsoft buttons (see below) and then enter your school email address and school computer login password.

e.g. 25bloggsj@benjaminbritten.school and password which could be: BlueCat123 (example)



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:

Literacy challenge: **Missing letters!**

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

ADDITION

MULTIPLICATION

ARITHMETIC

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

$$\begin{array}{r} 1) \quad 2607 \\ + 1328 \\ \hline 3935 \end{array}$$

$$\begin{array}{r} 2) \quad 5286 \\ + 505 \\ \hline 5791 \end{array}$$

$$\begin{array}{r} 3) \quad 2305 \\ + 3523 \\ \hline 5828 \end{array}$$

$$\begin{array}{r} 4) \quad 6817 \\ + 1320 \\ \hline 8137 \end{array}$$

$$\begin{array}{r} 5) \quad 2582 \\ + 2173 \\ \hline 4755 \end{array}$$

$$\begin{array}{r} 6) \quad 4438 \\ + 3121 \\ \hline 7559 \end{array}$$

$$\begin{array}{r} 7) \quad 7653 \\ + 273 \\ \hline 7926 \end{array}$$

$$\begin{array}{r} 8) \quad 1914 \\ + 359 \\ \hline 2273 \end{array}$$

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

Which of the following is the correct calculation of 3847 - 554?

- a)

$$\begin{array}{r} 3847 \\ - 554 \\ \hline 2307 \end{array}$$

b)

$$\begin{array}{r} 3847 \\ - 554 \\ \hline 3313 \end{array}$$

c)

$$\begin{array}{r} 3847 \\ - 554 \\ \hline -2307 \end{array}$$

d)

$$\begin{array}{r} 3847 \\ - 554 \\ \hline 3293 \end{array}$$

answers

$$\begin{array}{r} 1822 \\ - 204 \\ \hline 1618 \end{array}$$

$$\begin{array}{r} 4129 \\ - 702 \\ \hline 3427 \end{array}$$

$$\begin{array}{r} 6540 \\ - 222 \\ \hline 6318 \end{array}$$

$$\begin{array}{r} 2335 \\ - 256 \\ \hline 2079 \end{array}$$

$$\begin{array}{r} 1042 \\ - 245 \\ \hline 797 \end{array}$$

$$\begin{array}{r} 3650 \\ - 717 \\ \hline 2933 \end{array}$$

$$\begin{array}{r} 5037 \\ - 244 \\ \hline 4793 \end{array}$$

$$\begin{array}{r} 4*19 \\ - *31 \\ \hline 3988 \end{array}$$

* There are multiple answers to the last puzzle, but the digits in the two boxes marked with a star must be the same *



Homework 2:

List the first 10 even numbers: 0,2,4,6,8,10,12,14,16,18,20

List the first 10 odd numbers: 1,3,5,7,9,11,13,15,17,19

If even numbers always end with a 0,2,4,6,8 what digits do odd numbers always end in 1,3,5,7,9

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

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

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

- List the first 10 prime numbers 2,3,5,7,11,13,17,19,23,29
- List the first 10 square numbers 1,4,9,16,25,36,49,64,81,100

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

Shown below are 4 number cards.



Using the number cards, make

(a) the smallest possible 2 digit number.

26

.....
(1)

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

8629

.....
(1)



Homework 5:

answers

Work out what is happening in the sequences.
Can you figure out the missing terms?

A	7	12	17	22	27	32
B	5	8	11	14	17	20
C	16	13	10	7	4	1
D	15	9	3	-3	-9	-15
E	22	14	6	-2	-10	-18
F	9	12	15	18	21	24
G	-3	1	5	9	13	17

H	-2	-4	-6	-8	-10	-12
I	-12	-9	-6	-3	0	3
J	0.1	0.12	0.14	0.16	0.18	0.2
K	0.27	0.24	0.21	0.18	0.15	0.12
L	-1.24	-1.3	-1.36	-1.42	-1.48	-1.54
M	$\frac{1}{2}$	1	$\frac{3}{2}$	2	$\frac{5}{2}$	3
N	$\frac{1}{2}$	$\frac{3}{4}$	1	$\frac{5}{4}$	$\frac{6}{4}$	$\frac{7}{4}$

(a) Yes

(b) No

(c) No

(d) No

(e) No

1. Write down the first 10 triangular numbers. 1, 3, 6, 10, 15, 21, 28, 36, 45, 55

2. In each **geometric** sequence below, fill in the next term:

a) 1, 3, 9, 27

c) 2, 10, 50, 250

b) 2, 20, 200, 2000

d) 0.4, 4, 40, 400

1a) 5

b) 8

c) "to get the next term, add the previous 2"

2a) 16, 26, 42

b) 24, 39, 63

c) 32, 52, 84

d) 99, 160, 259

e) 46, 75, 121

f) 9, 16, 25



Homework 6:

Given that $a = 3$, evaluate:

a) $10a$ **30**

e) $4a + 2$ **14**

i) $5(a - 1)$ **10**

b) a^2 **9**

f) $9(a - 1)$ **18**

j) a^3 **27**

c) $\frac{4a}{6}$ **2**

g) $2a^2$ **18**

k) $(2a)^3$ **216**

d) $5a - 1$ **14**

h) $(2a)^2$ **36**

l) $(a + 2)^2$ **25**

a) xy **6**

b) $x - y$ **-1**

c) $3x^2$ **12**

$$5 + 4 = 9$$

$$7 - 4 = 3$$

Now use what you've learned to find the answers to these:

$$(1) \quad \star 3 + \star 3 + \star 3 = 9$$

$$(2) \quad \star 3 + \text{octagon } 9 + \star 3 = 15$$

$$(3) \quad \text{octagon } 9 + \star 3 + \text{octagon } 9 = 21$$

$$(4) \quad \star 3 + 5 + \text{octagon } 9 = 17$$

$$(5) \quad \text{octagon } 9 + \text{octagon } 9 - \text{octagon } 9 = 9$$

$$(6) \quad \text{octagon } 9 + \star 3 - 3 = 9$$

$$(7) \quad 4 \times \star 3 \times \text{octagon } 9 = 108$$

$$(8) \quad \text{octagon } 9 + \star 3 - \text{octagon } 9 = 3$$

$$(9) \quad 4 \times \star 3 \div \star 3 = 4$$

$$(10) \quad 7 \times \text{octagon } 9 \div \text{octagon } 9 = 7$$

$$(11) \quad \star 3 + \text{octagon } 9 \times \star 3 = 30$$

$$(12) \quad \text{octagon } 9 + \star 3 \times \text{octagon } 9 = 30$$

$$(13) \quad \text{octagon } 9 \times \star 3 - \text{octagon } 9 = 18$$

$$(14) \quad \text{octagon } 9 + 24 \div \star 3 = 17$$

$$(15) \quad \text{octagon } 9 \times \star 3 - \star 3 = 24$$

$$(16) \quad 2 \times \text{octagon } 9 - \star 3 = 15$$

$$(17) \quad \star 3 + 54 \div \text{octagon } 9 = 9$$

$$(18) \quad \star 3 + \star 3 \times \text{octagon } 9 = 36$$

$$(19) \quad \star 3 + \star 3 + \text{octagon } 9 \times \text{octagon } 9 = 87$$

$$(20) \quad \text{octagon } 9 \times \text{octagon } 9 + \star 3 \times \star 3 = 90$$



Homework 8:

2. (a) VIII (b) XVII (c) XXII (d) LVIII (e) XXXIX
(f) LXXXIV (g) LXXVIII (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



Homework 9:

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

1. 0.6 is the same as:

a) 0.600

b) 6.0

c) 0.06

d) 0.66

2. Which of these numbers is the **largest**?

a) 0.92

b) 0.149

c) 0.840

d) 0.09999

3. Select the **larger** number in each pair, or write = if they are the same.

a) 0.412 or 0.48

b) 1.38 or 1.4

c) 0.508 or 0.507

d) 7.05 or 7.005

e) 5.125 or 5.25

f) 0.3 or 0.29

g) 9.49 or 9.491

h) 10.46 or 1.047

i) 0.16 or 0.106

4. True or false?

a) $0.4 = 0.400$ True

c) $0.24 \geq 0.240$ True

e) $0.99 < 1.0$ True

b) $0.6 > 0.06$ True

d) $0.71 < 0.707$ False

f) $0.647 < 0.7$ True

5. Write down a positive number that is less than 0.01 *Any number beginning 0.00...*

6. Which of these numbers is the **smallest**?

a) 0.02

b) 0.4

c) 0.009

d) 0.013

Which is bigger, 1.6 or 2? Explain your answer. **2, it has 2 whole units,**

In each row, decide which is the smallest number:

- a)

0.3	0.29	0.301	0.4	0.06
-----	------	-------	-----	------
- b)

0.07	0.03	0.10	0.009	0.2
------	------	------	-------	-----
- c)

0.009	0.08	0.21	0.24	0.098
-------	------	------	------	-------
- d)

0.41	0.401	0.4	0.041	0.004
------	-------	-----	-------	-------
- e)

0.082	0.208	0.028	0.28	0.008
-------	-------	-------	------	-------

Which is bigger 0.8cm or 0.75cm? **0.8cm**

Which is more, 0.205kg or 0.3kg? **0.3kg**

Guess My Number

Use the clues to work out which number in the grid is being described.

My number is less than 0.7

My number is more than 0.2

My number has an 8 in the thousandths column

My number is less than 0.42

My number contains the digit 2

The digit in the hundredths column is odd

0.144	0.8	0.248
0.288	0.25	0.825
0.418	0.141	0.118
0.88	0.44	0.114
0.458	0.258	0.552

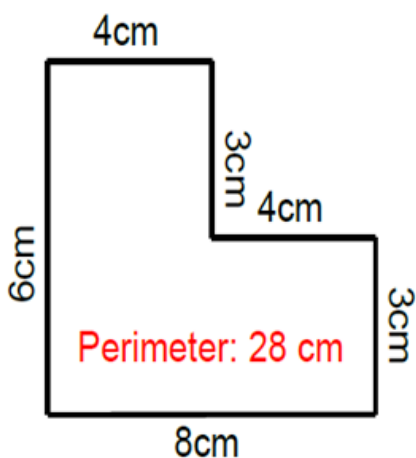


Homework 11:

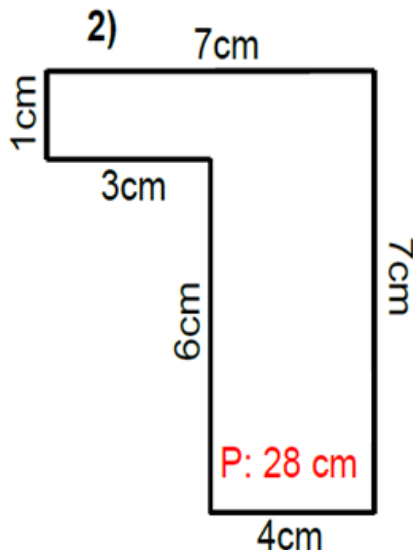
20, 24, 24

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

1)

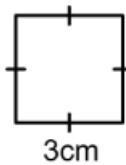


2)



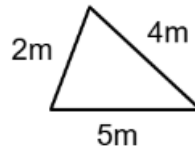
1. Work out the perimeter of each shape:

a)



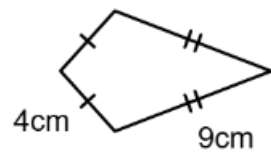
12cm

b)



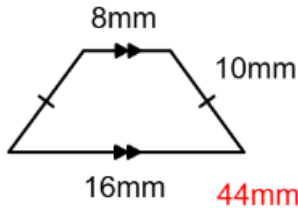
11m

c)



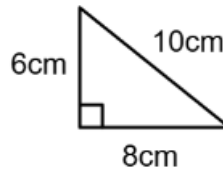
26cm

d)



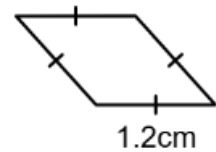
44mm

e)



24cm

f)

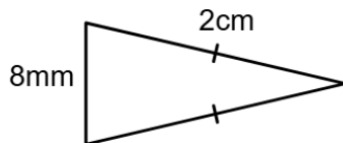


4.8cm

2. Work out the perimeter of a regular octagon with side lengths of 4cm. 32cm

What has been done wrong in the calculations for the perimeter of these shapes?

a)

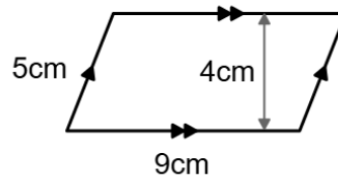


The units do not match.

$$8 + 2 + 2 = 12$$

Perimeter = 12cm

b)



$$5 + 5 + 4 + 9 + 9 = 32$$

Perimeter = 32cm

The 4cm length should not be included.



Homework 12:

Literacy challenge: **Anagrams!**

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

DIVISION

CALCULATION

OPERATIONS

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

1. Round each number to the **nearest ten**:

a) 63 **60**

b) 35 **40**

c) 149 **150**

d) 3462 **3460**

2. Round each number to the **nearest hundred**:

a) 375 **400**

b) 844 **800**

c) 3960 **4000**

d) 6543 **6500**

Round these numbers to the nearest 10:

a) 64 **60**

c) 108 **110**

b) 92 **90**

d) 203 **200**

Round these numbers to the nearest 100:

a) 556 **600**

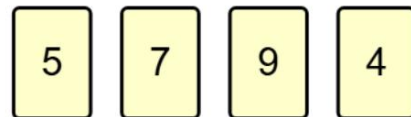
c) 76 **100**

b) 289 **300**

d) 1450 **1500**

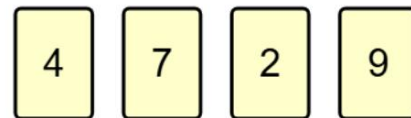
Arrange these cards to make a number that rounds to 9480, to the nearest ten:

9475



Arrange these cards to make a number that rounds to 2700, to the nearest hundred:

2749



Which of the following numbers equal **30** when rounded to the nearest ten?
Choose all that apply.

23	25	29	31	35	342
----	-----------	-----------	-----------	----	-----

Which of the following numbers equal **700** when rounded to the nearest hundred?
Choose all that apply.

684	773	650	1725	750	744
------------	-----	------------	------	-----	------------

George says:

"The smallest number that equals 50 when rounded to the nearest ten is 46"

Explain why George is wrong.

The smallest possible number is 45

Write down all the **integers** that equal **90** when rounded to the nearest ten.

85, 86, 87, 88, 89, 90, 91, 92, 93, 94

1. Which of these numbers have 1 decimal place? Select all that apply.

a) 43

b) **4.5**

c) 2.75

d) **62.0**

e) 200.30

2. Round each number to 1 decimal place:

a) 3.62 **3.6**

c) 2.45 **2.5**

e) 4.319 **4.3**

g) 105.1098 **105.1**



Homework 13:

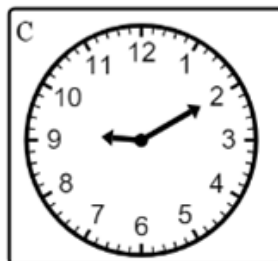
1. Write the correct time under each clock



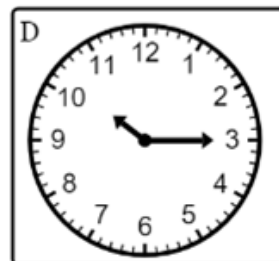
5:00



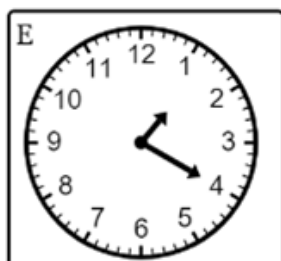
8:00



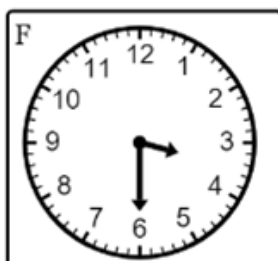
9:10



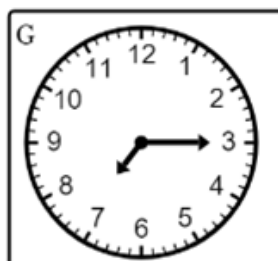
10:15



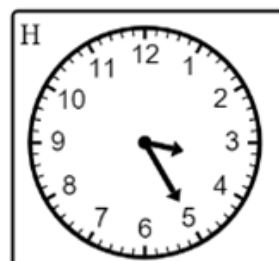
1:20



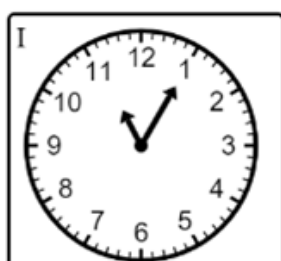
3:30



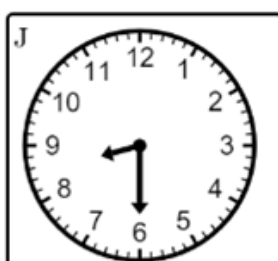
7:15



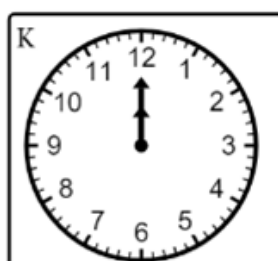
3:25



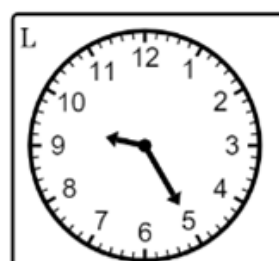
11:05



8:30



12:00

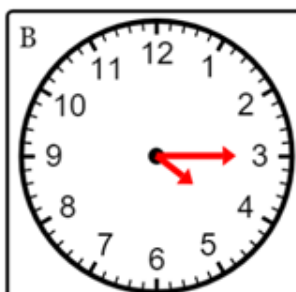


9:25

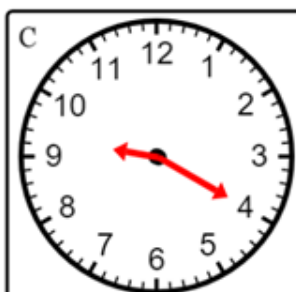
2. On each clock draw the hands in the correct place to show the time given



11.05



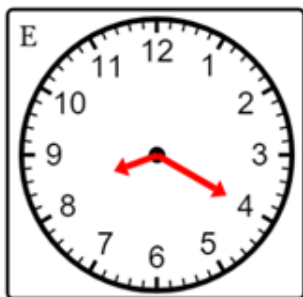
4.15



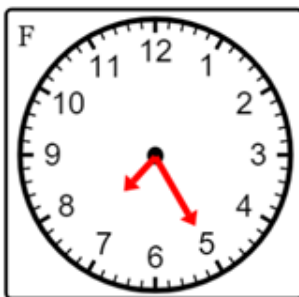
9.20



6.30



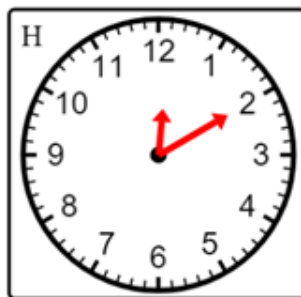
Twenty past eight



Twenty five past seven



Half past one



Ten past twelve

1. Work out the given times:

- a) 20 minutes after 3:15 pm **3:35 pm** b) 4 hours after 11 am **3 pm**
 c) $\frac{1}{2}$ hour after 6:50 pm **7:20 pm** d) 35 minutes after 10:40 am **11:15 am**
 e) 40 minutes **before** 9:30 am **8:50 am** f) $\frac{3}{4}$ hour **before** 4:20 pm **3:35 pm**

2. A TV programme is 30 minutes long and starts at 7:10 pm.

At what time does the programme end? **7:40 pm**

3. Vikki leaves home at 2:45 pm and walks to a park.

She arrives at the park 25 minutes later. At what time is this? **3:10 pm**

4. A meal takes 50 minutes to cook.

The meal needs to be ready for 6:30 pm.

At what time should the chef start cooking the meal? **5:40 pm**

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?

+ 14 mins

10 54

+ 10 mins

11 04

+ 22 mins

11 26

11.26 am

EXTRA SUPPORT

*If you need help with completing your homework, please use Mathswatch and watch the video clips for the topic. 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

Dr Austin

Mathspad

