

MATHEMATICS HOMEWORK BOOKLET

Benjamin Britten Academy of Music and Mathematics

Year 7 Book C
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 speak 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

×	3	5	2	4	6
4	12	20	8	16	24
2	6	10	4	8	12
6	18	30	12	24	36
3	9	15	6	12	18
5	15	25	10	20	30

$$\begin{array}{r} 1) \quad 13 \\ + 14 \\ \hline 27 \end{array}$$

$$\begin{array}{r} 2) \quad 30 \\ + 21 \\ \hline 51 \end{array}$$

$$\begin{array}{r} 3) \quad 13 \\ + 15 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 4) \quad 40 \\ + 22 \\ \hline 62 \end{array}$$

$$\begin{array}{r} 1) \quad \overset{1}{18} \\ + 14 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 2) \quad \overset{1}{35} \\ + 25 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 3) \quad \overset{1}{17} \\ + 17 \\ \hline 34 \end{array}$$

$$\begin{array}{r} 4) \quad \overset{1}{45} \\ + 26 \\ \hline 71 \end{array}$$

$$\begin{array}{r}
 1) \quad 2607 \\
 + 1328 \\
 \hline
 3935
 \end{array}
 \quad
 \begin{array}{r}
 2) \quad 5286 \\
 + 505 \\
 \hline
 5791
 \end{array}
 \quad
 \begin{array}{r}
 3) \quad 2305 \\
 + 3523 \\
 \hline
 5828
 \end{array}
 \quad
 \begin{array}{r}
 4) \quad 6817 \\
 + 1320 \\
 \hline
 8137
 \end{array}$$

$$\begin{array}{r}
 5) \quad 2582 \\
 + 2173 \\
 \hline
 4755
 \end{array}
 \quad
 \begin{array}{r}
 6) \quad 4438 \\
 + 3121 \\
 \hline
 7559
 \end{array}
 \quad
 \begin{array}{r}
 7) \quad 7653 \\
 + 273 \\
 \hline
 7926
 \end{array}
 \quad
 \begin{array}{r}
 8) \quad 1914 \\
 + 359 \\
 \hline
 2273
 \end{array}$$

$$\begin{array}{r}
 1) \quad 5\textcolor{red}{2} \\
 + 73 \\
 \hline
 1\textcolor{red}{2}5
 \end{array}
 \quad
 \begin{array}{r}
 2) \quad 58 \\
 + \textcolor{red}{3}6 \\
 \hline
 9\textcolor{red}{4}
 \end{array}
 \quad
 \begin{array}{r}
 3) \quad 84 \\
 + 5\textcolor{red}{5} \\
 \hline
 1\textcolor{red}{3}9
 \end{array}
 \quad
 \begin{array}{r}
 4) \quad \textcolor{red}{5}8 \\
 + 85 \\
 \hline
 \textcolor{red}{14}\textcolor{red}{3}
 \end{array}$$

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

$$\begin{array}{r}
 \text{a) } 3847 \\
 554 - \\
 \hline
 2307
 \end{array}
 \quad
 \begin{array}{r}
 \text{b) } 3847 \\
 554 - \\
 \hline
 3313
 \end{array}
 \quad
 \begin{array}{r}
 \text{c) } 3847 \\
 554 - \\
 \hline
 -2307
 \end{array}
 \quad
 \textcircled{\text{d)} } \begin{array}{r}
 3847 \\
 554 - \\
 \hline
 3293
 \end{array}$$

$$\begin{array}{r}
 1) \quad 25 \\
 - 14 \\
 \hline
 \textcolor{red}{11}
 \end{array}
 \quad
 \begin{array}{r}
 2) \quad 34 \\
 - 11 \\
 \hline
 \textcolor{red}{23}
 \end{array}
 \quad
 \begin{array}{r}
 3) \quad 34 \\
 - 16 \\
 \hline
 \textcolor{red}{18}
 \end{array}
 \quad
 \begin{array}{r}
 4) \quad 43 \\
 - 39 \\
 \hline
 \textcolor{red}{4}
 \end{array}$$

answers

$ \begin{array}{r} 1 \quad 8 \quad 2 \quad 2 \\ 2 \quad \textcolor{red}{0} \quad 4 - \\ \hline \textcolor{red}{1} \quad \textcolor{red}{6} \quad 1 \quad \textcolor{red}{8} \end{array} $	$ \begin{array}{r} 4 \quad 1 \quad 2 \quad \textcolor{red}{9} \\ \textcolor{red}{7} \quad \textcolor{red}{0} \quad 2 - \\ \hline \textcolor{red}{3} \quad 4 \quad 2 \quad 7 \end{array} $	$ \begin{array}{r} 6 \quad \textcolor{red}{5} \quad 4 \quad \textcolor{red}{0} \\ 2 \quad 2 \quad 2 - \\ \hline 6 \quad 3 \quad \textcolor{red}{1} \quad 8 \end{array} $	$ \begin{array}{r} 2 \quad \textcolor{red}{3} \quad 3 \quad \textcolor{red}{5} \\ 2 \quad 5 \quad 6 - \\ \hline 2 \quad 0 \quad \textcolor{red}{7} \quad 9 \end{array} $
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Homework 2:

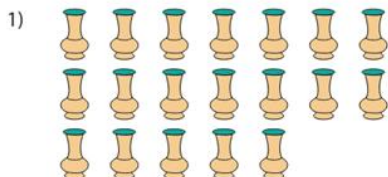
If even numbers always end with a 0,2,4,6,8 what digits do odd numbers always end in 1,3,5,7,9

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

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

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

Count the pictures. Classify the total as odd or even.



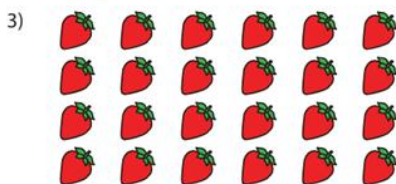
19 vases

odd / even



27 nail polishes

odd / even



24 strawberries

odd / even



16 candles

odd / even

1. Which of the following numbers are **even**? Choose all that apply.

4	7	12	25	28	116	390	6489
---	---	----	----	----	-----	-----	------

2. Which of the following numbers are **odd**? Choose all that apply.

1	6	18	49	76	243	885	2007
---	---	----	----	----	-----	-----	------

3. List all of the even numbers between 15 and 25. **16, 18, 20, 22, 24**
4. a) What is the 3rd odd number? **5** b) What is the 5th even number? **10**
 c) What is the 8th even number? **16** d) What is the 10th odd number? **19**
5. Which type of number does **not** divide exactly by 2? **odd**

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

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



Homework 5:

1. Work out the next 3 terms in each of these arithmetic sequences:

a) 9, 11, 13, 15, 17, 19, 21

b) 128, 125, 122, 119, 116, 113

c) 15, 10, 5, 0, -5, -10

d) 2.3, 2.5, 2.7, 2.9, 3.1, 3.3

2. Fill in the missing terms in these arithmetic sequences:

a) 17, 15, 13, 11, 9, 7, 5, 3, 1

b) -10, -7, -4, -1, 2, 5, 8, 11, 14

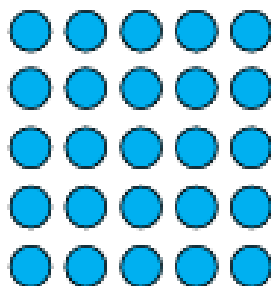
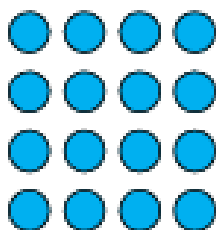
answers

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

a) 1, 4, 9

b)



c) 16, 25

d) 1, 4, 9, 16, 25, 36, 49, 64, 81, 100

a) 1, 3, 6, 10

b)



c) 15

d) 1, 3, 6, 10, 15, 21, 28, 36, 45, 55

e) The difference between pairs of numbers increases by 1 each time.



Homework 6:

A1 If $a = 5$ Find the value of $a + 3$ $5 + 3 = 8$	A2 If $a = 7$ Find the value of $a + 6$ $7 + 6 = 13$	A3 If $a = 9$ Find the value of $a - 6$ $9 - 6 = 3$	A4 If $a = 2$ Find the value of $6 - a$ $6 - 2 = 4$
B1 If $a = 4$ Find the value of $3a$ $3 \times 4 = 12$	B2 If $a = 7$ Find the value of $6a$ $6 \times 7 = 42$	B3 If $a = 15$ Find the value of $\frac{a}{3} = \frac{15}{3} = 5$	B4 If $a = 5$ Find the value of $\frac{10}{a} = \frac{10}{5} = 2$

A1 If $a = 3$ and $b = 8$ Find the value of $a + b$ $3 + 4 = 7$	A2 If $a = 10$ and $b = 4$ Find the value of $a - b$ $10 - 4 = 6$	A3 If $a = 8$ and $b = 12$ Find the value of $b - a$ $12 - 8 = 4$	A4 If $a = 5$ and $b = 6$ Find the value of $a + b + 3$ $5 + 6 + 3 = 14$
B1 If $a = 7$ and $b = 2$ Find the value of ab $7 \times 2 = 14$	B2 If $a = 2$ and $b = 5$ Find the value of $4ab$ $4 \times 2 \times 5 = 40$	B3 If $a = 15$ and $b = 3$ Find the value of $\frac{a}{b} = \frac{15}{3} = 5$	B4 If $a = 9$ and $b = 3$ Find the value of $\frac{a+b}{a-b} = \frac{9+3}{9-3} = \frac{12}{6} = 2$

$$\square = 1 \quad \bigcirc = 2 \quad \triangle = 3$$

Use **substitution** to find the value of each **expression**.

a) $\square \square + \bigcirc$
 $= 4$

b) $\square \square + \bigcirc + \triangle$
 $= 7$

c) $\square + \bigcirc \bigcirc \bigcirc + \triangle$
 $= 10$

$$\square = 2 \quad \bigcirc = 3 \quad \triangle = 2$$

d) $\square + \bigcirc + \triangle \triangle$
 $= 9$

e) $2 \square + \bigcirc$
 $= 7$

f) $2 \square + 2 \bigcirc + \triangle$
 $= 12$

$$\square = 4 \quad \bigcirc = 3 \quad \triangle = 4$$

Use **substitution** to find the value of each **expression**.

a) $\square \square + \bigcirc - \triangle$
 $= 7$

b) $\square + 2 \bigcirc - 2 \triangle$
 $= 2$

c) $3 \square - \bigcirc - 2 \triangle$
 $= 1$

$$\square = 4 \quad \bigcirc = 2 \quad \triangle = 5$$

d) $2 \square - 2 \bigcirc + 4 \triangle$
 $= 24$

e) $4 \square - \bigcirc - 2 \triangle$
 $= 4$

f) $3 \square - 4 \bigcirc - 3 \triangle$
 $= -11$



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:

×	5	3	6	4	2
5	25	15	30	20	10
3	15	9	18	12	6
2	10	6	12	8	4
6	30	18	36	24	12
4	20	12	24	16	8

Decide whether each of these statements are true or false.

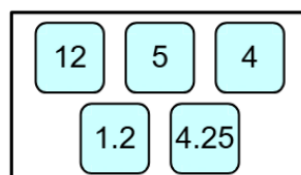
- a) $3 > 5$ **False** b) $6 \geq 4$ **True** c) $2 > 2$ **False**
d) $1 \leq 0$ **False** e) $3 < 7$ **True** f) $4 < 2$ **False**
g) $7 \neq 7$ **False** h) $1999 > 2000$ **False** i) $20394 \neq 9039$ **True**

Complete these statements using one of these symbols: $<$ $>$ $=$

- a) 5 $>$ 0 d) 10394 $>$ Ten thousand
b) 9 $=$ 9 e) 9949480 $>$ 1 million
c) 7 $<$ 12 f) 50193 $<$ Half a million

Arrange the numbers from the box to fit the chain:

$$\boxed{12} > \boxed{5} > \boxed{4.25} > \boxed{4} > \boxed{1.2}$$



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

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 |



Homework 9:

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**

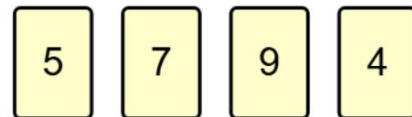
c) 76 **100**

b) 289 **300**

d) 1450 **1500**

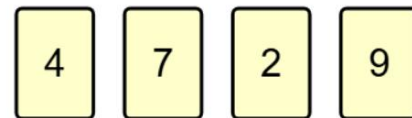
Arrange these cards to make a number that rounds to 9480, to the nearest ten:

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

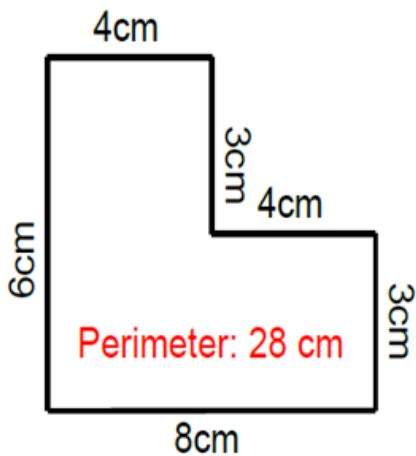


Homework 11:

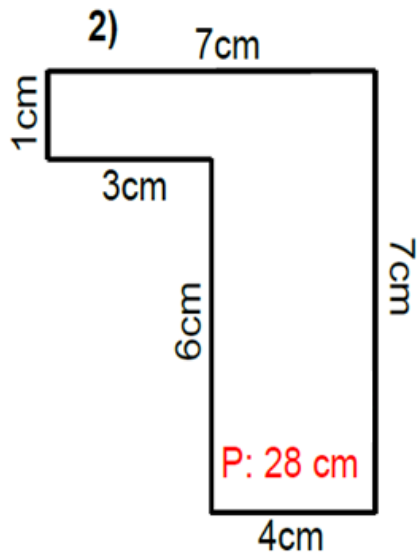
20, 24, 24

- | | | | |
|-----------|-------------|------------|------------|
| 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)

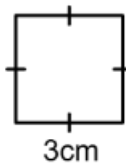


2)



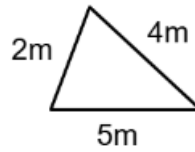
1. Work out the perimeter of each shape:

a)



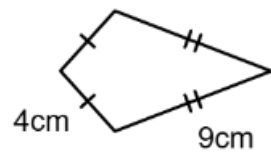
12cm

b)



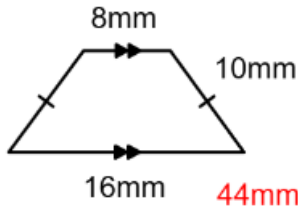
11m

c)



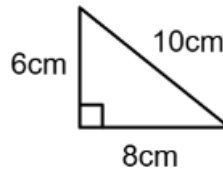
26cm

d)



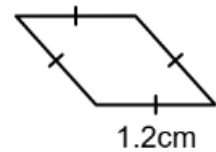
44mm

e)



24cm

f)

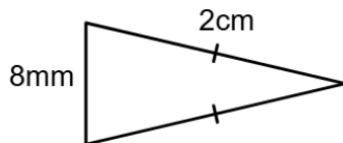


4.8cm

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)

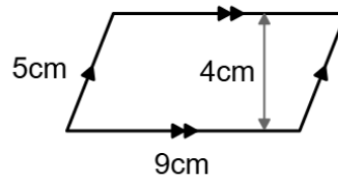


The units do not match.

$$8 + 2 + 2 = 12$$

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

×	2	4	6	3	5
4	8	16	24	12	20
3	6	12	18	9	15
5	10	20	30	15	25
2	4	8	12	6	10
6	12	24	36	18	30

Round these numbers to the nearest 10.

Number	Rounded Number
24	20
36	40
45	50
52	50
68	70
135	140
205	210
314	310

Round these numbers to the nearest 100.

Number	Rounded Number
220	200
363	400
450	500
525	500
605	600
251	300
199	200
44	0

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**

3. Round each number to the **nearest thousand**:

- a) 4823 **5000** b) 7504 **8000** c) 15,972 **16,000** d) 30,395 **30,000**

4. Round each value as indicated:

- a) 760 to the nearest 100 **800** b) 184cm to the nearest 10cm **180cm**
c) 4460 to the nearest thousand **4000** d) 3827 to the nearest hundred **3800**

1. Which of these numbers have 1 decimal place? Choose 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** d) 2.45 **2.5** g) 4.319 **4.3** j) 105.1098 **105.1**
b) 1.84 **1.8** e) 13.19 **13.2** h) 26.453 **26.5** k) 459.821 **459.8**
c) 2.01 **2.0** f) 4.55 **4.6** i) 19.65 **19.7** l) 8.98 **9.0**



Homework 13:

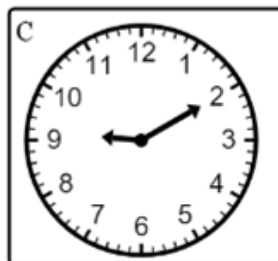
1. Write the correct time under each clock



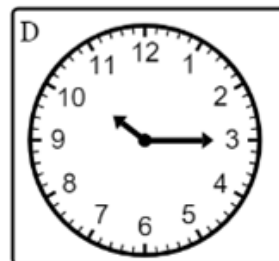
5:00



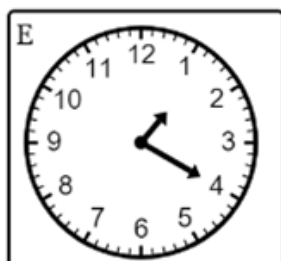
8:00



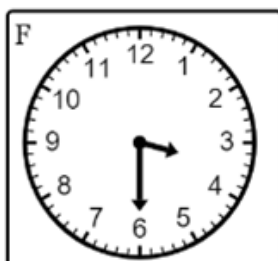
9:10



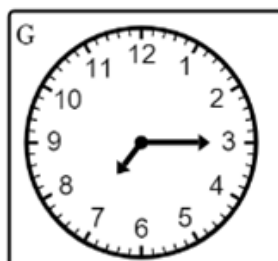
10:15



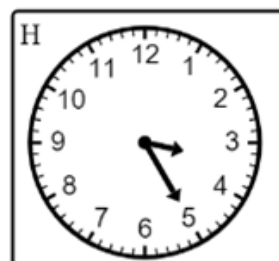
1:20



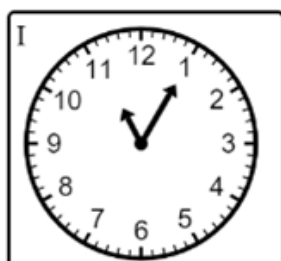
3:30



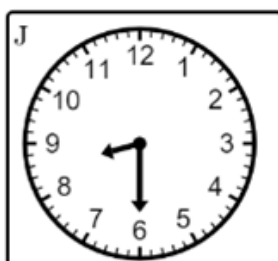
7:15



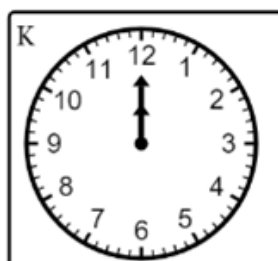
3:25



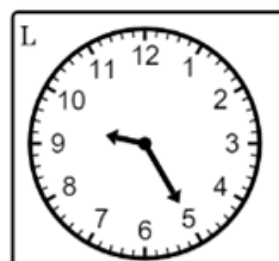
11:05



8:30



12:00

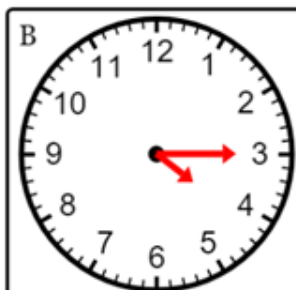


9:25

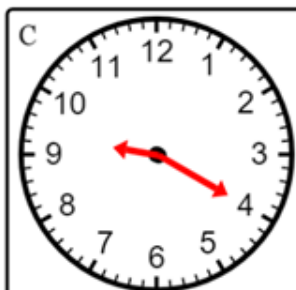
2. On each clock draw the hands in the correct place to show the time given



11.05



4.15



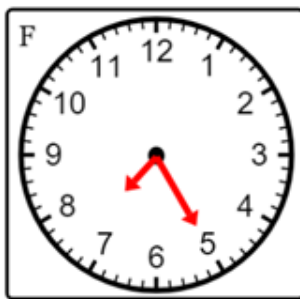
9.20



6.30



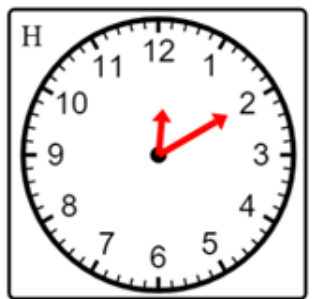
Twenty past eight



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**

7.20 pm	1 hour	A 8.20 pm	2.20 pm	$\frac{1}{4}$ of an hour	E 2.35pm
4.05 pm	10 minutes	B 4.15 pm	3.00 am	$\frac{1}{3}$ of an hour	F 3.20 am
10.00 am	$\frac{3}{4}$ of an hour	C 10.45 am	2.15 pm	G $\frac{1}{2}$ an hour	2.45pm
3.20 pm	$\frac{1}{2}$ of an hour	D 3.50 pm	H 4.30 pm	$\frac{1}{2}$ an hour	5pm
			I 10.59 pm	7 minutes	11.06 pm

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

