Mathletics

Whole Numbers and Place Value

Series G – Whole Numbers and Place Value

Contents

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Series G – Whole Numbers and Place Value

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	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
816,958		8	1	6	9	5	8
1,254,958	1	2	5	4	9	5	8
91,806			9	1	8	0	6
3,048,787	3	0	4	8	7	8	7
958,656		9	5	8	6	5	6
1,362,055	1	3	6	2	0	5	5

2a 7,241,253

b 8,591,476

c 4,453,540

d 3,525,614

e 2,512,444

f 2,433,498

3a 43,591; 53,591; 63,591

b 3,459,012; 4,459,012; 5,459,012

c 707,518; 706,518; 705,518

d 4,000,424; 4,000,324; 4,000,224

4a Answers will vary.

b Answers will vary.

c Answers will vary.

d Answers will vary.

5a false

b false

c true

6

¹1	0	²3	7	8	³1	4
3		8			0	
⁴3	0	4	⁵9	5	0	6
8		0	6		0	
⁶1	0	0	0	0	0	0
4		0	2		0	

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1b 80,000 + 8,000 + 400 + 20 + 1

c 2,000,000 + 800,000 + 50,000 + 6,000 + 900 + 10 + 3

d 700,000 + 10,000 + 4,000 + 500 + 30 + 3

1e 7,000,000 + 200,000 + 40,000 + 500 + 40 + 7

f 4,000,000 + 200,000 + 10,000 + 5,000 + 600 + 30 + 2

g 700,000 + 70,000 + 400 + 20 + 1

h 400,000 + 60,000 + 7,000 + 800 + 9

2a 523,741

b 85,273

c 405,252

d 941,085

e 27,308

f 302,584

g 856,238

Pages 4–5

1 550,654

995,841

1,256,441

1,485,554

1,547,521

1,547,656

1,548,654

2 9

6

2

1

8

3

4

7

10

5

3 Observe students.

Page 6

What to do

Group	Name	Wealth	Richest to poorest
Cliques:	*Student A*	£999,999,999	1
	Student B	£999,999,998	2
GROUP A even, divisible by 4 and 8.	John McSnooty	£1,560,016	11
A	Maxy Million	£3,457,342	9
A	Count More	£32,760,212	3
GROUP B odd, divisible by 3 and 9.	Ms Heiress (and dog)	£25,820,433	5
B	Lady Pennypincher	£10,720,899	8
B	Money Hungry	£28,073,061	4
GROUP C divisible by 5.	Mrs Bigpurse	£2,100,565	10
C	Mr Rich	£25,641,265	6
C	Lord Loot	£12,740,090	7

What to do next

Observe students.

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What to do

Observe students.

What to do next

Observe students.

Pages 8–9

1a −4°C

b −8°C

c 16°C

d −2°C

e 5°C

f −10°C

g 14°C

h −7°C

i −5°C

2a −£5

b £1

c £15

d £12

e −£10

f −£2

g £17

h −£15

3a −5

b −4

c 3

d −3

e −8

4a $4 - 6 = -2$

b $-10 + 5 = -5$

c $1 - 8 = -7$

d $-8 + 9 = 1$

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1a 2

b 1

1c 31

d −1

e − 99,999

f 98,765

g 7,532

h 11

2a Answers will vary.

b All of the distances between 2,950 km and 3,049 km.

Pages 11–12

1

	Thousands	Hundreds	Tens	Ones
358		CCC	L	VIII
612		DC	X	II
475		CD	LXX	V
939		CM	XXX	IX
1,563	M	D	LX	III

2a XVIII

b XLVII

c XXXIV

d XCII

e CXV

f DCCLXXVI

g CDLXIX

h CM

i CXXXVIII

j LXXXII

3a 27

b 19

c 63

d 44

e 547

f 285

g 1,325

h 979

4a 1977

b 2008

c 1997

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What to do

Answers will vary.

What to do next

Answers will vary.

Pages 14–15

What to do

Answers will vary.

What to do next

Answers will vary.

Pages 16–17

1a 12,000

b 10,000

c 40,000

d 55,000

e 8,000

f 90,000

2a 10,000

b 20,000

c 40,000

d 80,000

e 250,000

f 700,000

3a 800,000

b 700,000

c 100,000

d 200,000

e 900,000

f 400,000

4
I	T		C	A	N		C	A	T	C	H
2,000	50,000		400	8,000	20,000		400	8,000	50,000	400	200

A		H	U	M	A	N		C	O	L	D
8,000		200	70,000	500	8,000	20,000		400	7,000	900	10,000

5a False

b True

c True

d False

e True

f False

g False

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Pages 16–17

6 Numbers in the range 3,500 to 4,499.

Pages 18–19

1b | 20 | × | 20 | = | 400 |

c | 10 | × | 40 | = | 400 |

d | 30 | × | 50 | = | 1,500 |

e | 60 | × | 30 | = | 1,800 |

f | 20 | × | 40 | = | 800 |

g | 10 | × | 60 | = | 600 |

h | 40 | × | 40 | = | 1,600 |

i | 20 | × | 70 | = | 1,400 |

2a 90

b 2,100

c 700

d 500

e 3,200

f 400

g 200

3b 487 ÷ 6 = | 480 | ÷ | 6 | = | 80 |

c 427 ÷ 7 = | 420 | ÷ | 7 | = | 60 |

d 367 ÷ 6 = | 360 | ÷ | 6 | = | 60 |

e 568 ÷ 8 = | 560 | ÷ | 8 | = | 70 |

f 729 ÷ 9 = | 720 | ÷ | 9 | = | 80 |

4a £200

b Yes – £170

c 1,400 km

d 10

e 150

4f 10

g 60,000

Page 20

What to do

Answers will vary.

What to do next

Accept answers in the range 650–750.
The precise answer is 706.6.

Page 21

What to do

a £10,000 + £110,000 + £820,000
= £940,000

b Yes, she will be in £40,000 of debt.

c £15,000 – (£3,000 + £2,000 + £4,000)
= £6,000

d £8,000;

That the get rich quick scheme requires £4,000 from Jack as a joining fee.

Not long!

e Yes.

f He is just bragging.
5 days × 5 km = 25 km a week

Read and understand numbers   Name_____

1 **Write the following numbers using expanded notation:**

a 240,583

b 1,126,423

c 8,200,782

....

2 **In the number 5,783,082, which digit:**

a is in the thousands place? ☐   **b** is in the tens place? ☐

c will change if a million is added? ☐

....

3 **Arrange the numbers:**

a in descending order

4,763,221	12,703,170	4,967,211	844,008	804,048	3,703,170

b in ascending order

5,261,022	755,022	7,027,581	6,315,227	807,381	526,102

....

**4** **Look at the digits below:**

7	4	8	1	2	9	3

a What is the largest number you can make using these digits? _____

b What is the smallest number you can make using these digits? _____

....

Skills	Not yet	Kind of	Got it
• Expresses numbers of up to 7 digits in expanded notation			
• States the place value of any digit in numbers to 7 digits			
• Orders numbers to 7 digits			
• Expresses numerals as powers of 10			

Types of numbers

Name _____

1 Use the number line to help answer the following questions:

$$\longleftarrow \quad -10 \;\; -9 \;\; -8 \;\; -7 \;\; -6 \;\; -5 \;\; -4 \;\; -3 \;\; -2 \;\; -1 \;\; 0 \;\; 1 \;\; 2 \;\; 3 \;\; 4 \quad \longrightarrow$$
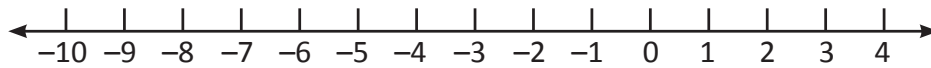
a 4 − 7 = [　　]

b 2 − 8 = [　　]

c −3 + 4 = [　　]

d −9 + 5 = [　　]

2 At 11 pm, the temperature was 2 °C. By 2 am, it had dropped 7 °C. What was the temperature at 2 am?

_____

3 The temperature in London was 27 °C. On the same day it was −6 °C on the top of Mt Blanc. How much colder was it on Mt Blanc than in London?

_____

4 Complete the Roman numerals chart:

1	I	6	VI	20	XX	70	LXX	1,000	M
2		7		30		80	LXXX		
3		8	VIII	40	XL	90	XC		
4		9	IX	50	L	100			
5	V	10		60		500			

5 Express the following numbers in Roman numerals or as Hindu–Arabic (our system) numerals:

a 9 [　　]

b 24 [　　]

c 99 [　　]

d 187 [　　]

e 445 [　　]

f 1,321 [　　]

Skills	Not yet	Kind of	Got it
• Recognises the location of negative numbers on a number line			
• Adds and subtracts negative numbers			
• Expresses and reads numbers as Roman numerals			

Types of numbers

6 **Express the following numbers in Roman numerals:**

a XIV

b XLVII

c XCV

d CCCLXXVIII

e DCCL

f XMXXXIX

....

7 **If your father was born in MCMLXIV, how old would he be in 2020?**

....

8 **If your teacher was born in MCMLXXIX, how old would he or she be in 2020?**

....

9 **Express your birth year in Roman numerals.**

....

10 **What is the time?**

....
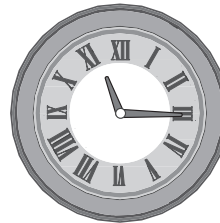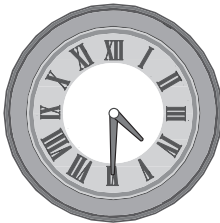
Skills	Not yet	Kind of	Got it
• Expresses numbers in Roman numerals			
• Converts numbers to Roman numerals			
• Reads dates and times in Roman numerals			

Round and estimate

Name _____

1 **Round these numbers to the nearest 10:**

a 6,357 [   ]

b 99,236 [   ]

2 **Round these numbers to the nearest 100:**

a 132,778 [   ]

b 547,942 [   ]

3 **Round these numbers to the nearest 1,000:**

a 5,673 [   ]

b 679,432 [   ]

4 **Circle the best estimate:**

a 59 × 32	=	180	1,800	1,500
b 43 × 102	=	4,000	40,000	400
c 329 ÷ 8	=	50	23	40
d 536 ÷ 9	=	60	70	6

5 **Look at the populations of the towns in the District of Springfield in the table below:**

Springfield	134,777	
Margetown	56,000	
Burnsville	48,999	
Flanders	10,003	
Krustyton	9,887	
St Barts	39,011	

Round each population to the nearest 10,000. What is the population of the district to the nearest 10,000?

[   ]

6 **Is this estimate reasonable?**

Stavros is saving $\frac{1}{2}$ of his pocket money for a new game. He receives £12 per week and estimates that by the end of 10 weeks, he will have saved between £100 and £150. Is he right? _____

Skills	Not yet	Kind of	Got it
• Rounds to the nearest 10, 100, 1,000			
• Mentally solves algorithms using rounding and estimation			
• Uses rounding to make reasonable estimates			

Series G – Whole Numbers and Place Value – Student Progress Record

Name_____ Class _____ Date _____

What went well: _____

_____

_____

_____

What I need to improve: _____

_____

_____

_____

✂ -

Series G – Whole Numbers and Place Value – Student Progress Record

Name_____ Class _____ Date _____

What went well: _____

_____

_____

_____

What I need to improve: _____

_____

_____

_____

Series G – Whole Numbers and Place Value

ASSESSMENT ANSWERS

Page 4

1a 200,000 + 40,000 + 500 + 80 + 3

b 1,000,000 + 100,000 + 20,000 + 6,000 + 400 + 20 + 3

c 8,000,000 + 200,000 + 700 + 80 + 2

2a 3

b 8

c 5

3a 12,703,170; 4,967,211; 4,763,221; 3,703,170; 844,008; 804,048

b 526,102; 755,022; 807,381; 5,261,022; 6,315,227; 7,027,581

4a 9,874,321

b 1,234,789

Pages 5–6

1a −3

b −6

c 1

d −4

2 −5°C

3 33°C colder

4

1	I		6	VI	
2	II		7	VII	
3	III		8	VIII	
4	IV		9	IX	
5	V		10	X	

20	XX		70	LXX	
30	XXX		80	LXXX	
40	XL		90	XC	
50	L		100	C	
60	LX		500	D	

5a IX

b XXIV

c XCIX

d CLXXXVII

e CDXLV

f MCCCXXI

6a 14

b 47

c 95

d 378

e 750

f 939

7 56

8 41

9 Teacher check

10 4:30; 11:15

Page 7

1a 6,360

b 99,240

2a 132,800

b 547,900

3a 6,000

b 679,000

4

a 59 × 32 =	180	(1,800)	1,500
b 43 × 102 =	(4,000)	40,000	400
c 329 ÷ 8 =	50	23	(40)
d 536 ÷ 9 =	(60)	70	6

5

Springfield	134,777	*130,000*
Margetown	56,000	*60,000*
Burnsville	48,999	*50,000*
Flanders	10,003	*10,000*
Krustyton	9,887	*10,000*
St Barts	39,011	*40,000*

300,000

6 No

Series G – Whole Numbers and Place Value

Topic	Reference	Strand	Substrand	Objective
Read and Understand Numbers	6N2	Number	Number and place value	Read, write, order and compare numbers up to 10,000,000.
Read and Understand Numbers	6N3	Number	Number and place value	Determine the value of each digit in numbers up to 10,000,000.
Types of Numbers	6N5	Number	Number and place value	Use negative numbers in context, and calculate intervals across zero.
Round and Estimate	6N4	Number	Number and place value	Round any whole number to a required degree of accuracy.
All	6N6	Number	Number and place value	Solve number and practical problems that involve 6N2–6N5.