Number Sequences - Answers

Key Stage 2: 2003 Paper A

1.

10a	**11** **AND** **16**	***1m***	*Both numbers must be correct for the award of the mark.* *Answers may be written in either order.*
10b	An explanation which recognises that the numbers in circles are multiples of 5, eg ■ 'Because all the circles are multiples of 5'; ■ 'Because 35 is in the five times table'.	***1m*** U1	***Do not*** *accept vague or arbitrary explanations, eg* ■ *'Because you keep on adding 5';* ■ *'Because the circles are 5 more each time'.*

Key Stage 2: 2003 Paper A

2.

17	Award **TWO** marks for the correct answer of **10.8** **AND** **17.3** If the answer is incorrect, award **ONE** mark for **either** **10.8** in the first box **or** a number in the second box, which is 6.5 greater than the answer given in the first box.	***Up to 2m***	*Numbers must be in the correct order.*

Key Stage 2: 2003 Paper B

1.

7	Award **TWO** marks for the correct answer of **22** **AND** **21** If the answer is incorrect, award **ONE** mark for **either** **22** in the first box **or** a number in the second box, which is 10 more than half the answer given in the first box.	***Up to 2m***	*Numbers must be in the correct order.*

Key Stage 2: 2003 Paper B

2.

16	Award **TWO** marks for the sequence completed as shown: **0.75** **1.5** 3 6 12 24 48 **96** If the answer is incorrect, award **ONE** mark for two numbers correct.	***Up to 2m***	*Accept answers as fractions, eg* $\frac{3}{4}, 1\frac{1}{2}$ *Accept for **ONE** mark* ■ *the number in the third box is 96* ***AND*** ■ *the number in the first box is half of the number in the second box.* *eg* **0.5** **1** **96** ***Do not** award any marks if all numbers are whole numbers.*

Key Stage 2: 2004 Paper B

1.

23	Award **TWO** marks for the correct answer of 2051 If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg (4099 + 3) ÷ 2 **OR** continuation of sequence, eg 259, 515, 1027, wrong number	***Up to 2m***	*Answer need not be obtained for the award of **ONE** mark.*

Key Stage 2: 2006 Paper A

1.

15a	Two numbers circled as shown: 71 (72) 73 74 (75)	**1m**	***Do not** award the mark if additional incorrect numbers are circled.* *Accept alternative unambiguous indications, eg ticks, crosses.*
15b	An explanation which recognises that 1003 is not a multiple of 3, eg: ■ 'Because 1003 is not divisible by 3' ■ 'Because 1003 is not a multiple of 3' ■ 'Because 1003 is not in the 3 times table' ■ 'Because I divided 1003 by 3 and there was a remainder' ■ 'Because 1003 ÷ 3 has a decimal answer' ■ 'Because 1 + 0 + 0 + 3 = 4, and 4 is not a multiple of 3' ■ 'Because 1003 has a digital sum of 4' ■ 'Because 1002 is the nearest in the 3 times table' ■ 'Because 1000 is not divisible by 3' ■ 'Because 999 is divisible by 3'.	**1m** (U1)	*No mark is awarded for circling 'No' alone.* ***Do not** accept vague or arbitrary explanations, eg:* ■ *'Because 1003 ends in 3'* ■ *'Because 1003 is in the third column'* ■ *'Because if you keep going in 3s you will go past it'.* *If 'Yes' is circled but a correct unambiguous explanation is given, then award the mark.*

Key Stage 2: 2006 Paper B

1.

12	1 **5** **9** 13	**1m**	

Key Stage 2: 2007 Paper A

1.

5	Three numbers circled as shown: **840** **905** 989 **1000** 2051	**1m** (U1)	***Do not** award the mark if additional incorrect numbers are circled.* *Accept alternative unambiguous indications, eg numbers ticked, crossed or underlined.*

Key Stage 2: 2008 Paper A

1.

6a	650 in first box.	**1m**	
6b	1025 in second box.	**1m**	

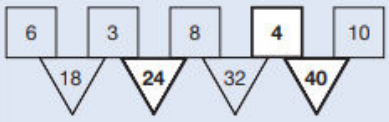
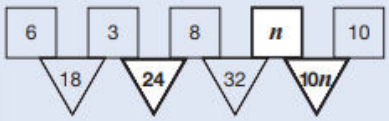
Key Stage 2: 2008 Paper A

2.

23	'No' is circled **AND** one of the following: an explanation which recognises that 777 is not one more than a multiple of 7, eg: ■ 'All the numbers are one more than a multiple of 7' ■ 'There are no multiples of 7 in the sequence' ■ '778 is in the sequence' ■ '771 works but 777 doesn't' **OR** an explanation which recognises that 777 is a multiple of 7, eg: ■ '777 is a multiple of 7' ■ '777 ÷ 7 = 111' **OR** an explanation which relies solely on the start of the sequence, eg: ■ 'The sequence started at 1' ■ 'The sequence doesn't start at 0'.	***1m*** U1	*'No' must be indicated for the award of the mark, unless a **complete** and correct explanation is given, eg:* ■ *'777 is a multiple of 7, and the numbers in the sequence aren't'.* *No mark is awarded for circling 'No' alone.* ***Do not** accept vague or incomplete explanations, eg:* ■ *'It's adding 7 every time'* ■ *'There are no 7s in the sequence'.*

Key Stage 2: 2010 Paper A

1.

6	Award **TWO** marks for the diagram completed as shown:  If the answer is incorrect, award **ONE** mark for two numbers correct **OR**  where n is any number.	**Up to 2m**	

Key Stage 2: 2010 Paper A

1.

18a	–75 in the first box	**1m**	**Do not** accept 75–
18b	–200 in the second box	**1m**	**Do not** accept 200– Accept a number 125 less than the answer to 18a, provided the answer to 18a is negative.

Key Stage 2: 2011 Paper B L6

1.

2	**1m** **1m** **U1**	20 33.125	✓ ***Equivalent fractions or decimals***

Key Stage 2: 2011 Paper A

1.

9	Two numbers circled as shown: 255 **650** 735 **900** 995	**1m**	Accept alternative unambiguous indications, eg numbers ticked, crossed or underlined.

Key Stage 2: 2011 Paper B

1.

15	Award **TWO** marks for a multiple of 15 which is greater than 100, eg 105 **OR** 120 **OR** 135 **OR** 150 **OR** 300 If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg: ■ 90 93 96 99 102 105 108 … 90 95 100 105 110 115 … ■ 90 93 96 98 101 104 107 **110** … 90 95 100 105 **110** 115 … ■ 15 30 45 60 75 80 95 110 **125** ■ 3 × 5 × 20 **OR** 15 × 10	**Up to 2m**	Accept more than one answer if all are correct. Accept for **ONE** mark 30, 45, 60, 75 **OR** 90 *Not spotting matching number (105)* *One step size incorrect (96 to 98)* *One step size incorrect (75 to 80)* *Multiple greater than 100 but not calculated* Answer need not be obtained for the award of **ONE** mark.

Key Stage 2: 2012 Paper A L6

1.

1	–1 4 9 14 19	**1m**	

Key Stage 2: 2013 Paper A L6

1.

6a	302	**1m**	
6b	49	**2m**	
		or	
	Shows or implies a correct first step of algebraic manipulation that either reduces the number of terms **or** collects variables on one side of the equation and numbers on the other, eg: • $2s = 100 - 2$ • $s = 98 \div 2$ **OR** Shows or implies a complete correct method, eg: • $(100 - 2) \div 2$	**1m**	! ***Correct embedded solutions*** Award 1m for a response which shows 49 as the embedded solution to their working

Key Stage 2: 2014 Paper A

1.

2a	570 in the first box.	**1m**	
2b	730 in the last box	**1m**	

Key Stage 2: 2014 Paper B

1.

8a	Two numbers from the sequence that total 96, eg: 43 **AND** 53 **OR** 23 **AND** 73	**1m**	Numbers may be given in either order. Accept negative numbers, eg –7 **AND** 103
8b	An explanation that recognises that adding three numbers ending in 3 will produce a number ending in a 9 eg: ■ 'They all end in 3 so adding three will give a number ending in 9' ■ 'If you add three numbers in the sequence you will always get a number ending in 9' ■ 'All the numbers are odd and 96 is even'	**1m** **U1**	**Do not** accept vague or incomplete explanations, eg: ■ 'All the numbers end in three' ■ 'It only works with two numbers' ■ '3 odds add to make an even'

Key Stage 2: 2015 Paper A

1.

7	Award **TWO** marks for the correct answer of 290 If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg: ■ 110 140 170 200 230 260 290 (320) **OR** ■ 110 140 170 190 220 250 280 (310) **OR** ■ 300 + 20 = 320 320 – 30 = wrong answer	**Up to 2m** U1	Working must be carried through to reach an answer for the award of **ONE** mark. Not spotting closest number One step size incorrect (170 to 190)

Key Stage 2: 2015 Paper B

1.

4	Award **TWO** marks for three numbers correct as shown: **19** | 38 | **76** | 152 | **304** If the answer is incorrect, award **ONE** mark for two numbers correct.	**Up to 2m**	

Key Stage 2: 2015 Paper B

2.

21	Award **TWO** marks for the sequence completed correctly as shown: 1 | **$2\frac{1}{2}$** | **4** | **$5\frac{1}{2}$** | 7 If the answer is incorrect, award **ONE** mark for two numbers correct.	**Up to 2m**	

Key Stage 2: 2016 Paper 3 Reasoning - Sample

1.

2	Award **TWO** marks for both numbers correct as shown. **–12** | –5 | **2** If the answer is incorrect, award **ONE** mark for one number correct.	**Up to 2m**	**Do not** accept 12– Accept +2 in the right-hand box.

Key Stage 2: 2016 Paper 3 Reasoning

1.

1	Award **TWO** marks for numbers in order as shown: **68** 82 96 **110** 124 138 **152** If the answer is incorrect, award **ONE** mark for two numbers correct.	**Up to 2m**	

Key Stage 2: 2017 Paper 3 Reasoning

1.

21a	$\frac{3}{8}$ written in the first box	**1m**	Accept equivalent fractions or an **exact** decimal equivalent, e.g. 0.375
21b	$2\frac{7}{8}$ **OR** $\frac{23}{8}$ written in the last box	**1m**	Accept equivalent fractions or an **exact** decimal equivalent, e.g. 2.875

Key Stage 2: 2018 Paper 2 Reasoning

1.

6	299,604	**1m**	

Key Stage 2: 2018 Paper 2 Reasoning

2.

9	Explanation that recognises that the sequence does not always increase by four, with clear reference to the data, e.g. • The difference between 1996 and 1999 is three years, not four so it is not always every four years • It would be 2000 if it was every 4 years • It should have ended in 2016 **OR** Explanation that demonstrates that the sequence does not always increase by 4, but does not reference specific years from the data, e.g. • The cricket world cup was sometimes 3 years apart instead of 4 years apart • Not all of the years have 4 years difference between.	**1m**	**Do not** accept vague or incomplete explanations, e.g. • It does not always increase by four • It should be 2000 • The difference can be 3, 4 or 5 years at different times. **Do not** accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation, e.g. • 1992 + 4 = 1996 + 3 = 1999

Key Stage 2: 2018 Paper 3 Reasoning

1.

1	Award **TWO** marks for three correct numbers, as shown: **35** 42 49 **56** 63 **70** Award **ONE** mark for two numbers correctly placed.	**Up to 2m**	

Key Stage 2: 2019 Paper 2 Reasoning

1.

5	Award **TWO** marks for three correct numbers, as shown: **110** 155 200 245 **290** **335** Award **ONE** mark for: • any two numbers correctly placed **OR** • if box 1 is correct, accept correct follow-through for box 3 from the incorrect value in box 2.	**Up to 2m**	**Do not** accept misreads for this question.

Key Stage 2: 2019 Paper 2 Reasoning

2.

8a	11 written in the first box, as shown: **11** 25 53	**1m**	
8b	109 written in the last box, as shown: 25 53 **109**	**1m**	