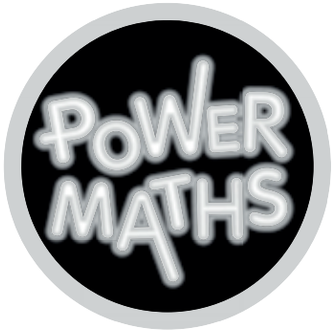

Year group:	5
Type of test:	End of Half Term
Term:	Autumn 1
Test content:	Arithmetic
Power Maths topic:	Book 5A, Units 1–3

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
1	**52**	1	**Possible incorrect answer 68 (An answer like this may suggest children have subtracted the smaller digit from the larger in each column)** **Possible incorrect answer 62 (An answer like this may suggest children have forgotten to exchange the tens column)** Children may miscalculate when doing a subtraction in their head. This topic is covered in Unit 3, Lesson 7.	Children understand what mental methods can be used to efficiently subtract whole numbers.
2	**4,286**	1	**Possible incorrect answer 6,860 (An answer like this may suggest children have aligned the columns incorrectly)** Children may not know which place value column to start with when adding two whole numbers together. This topic is covered in Unit 3, Lesson 1.	Children can use the written method of column addition to add whole numbers with more than 4 digits.
3	**606**	1	**Possible incorrect answer 734 (An answer like this may suggest children have added the given numbers, instead of using the inverse operation)** Children may choose the wrong numbers when trying to identify the inverse calculation. This topic is covered in Unit 3, Lesson 8.	Children can use the inverse operations of addition and subtraction to check the answers to calculations.

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
4	**483**	1	**Possible incorrect answer 661 (An answer like this may suggest children have added instead of subtracting)** Children may miss an exchange that is needed because they are working out mentally. This topic is covered in Unit 3, Lesson 7.	
5	**19,001**	1	**Possible incorrect answer 73,019 (An answer like this may suggest children have aligned the columns incorrectly)** Children may not know which place value column to start with when adding two whole numbers together. Children may not understand the concept of exchanging between columns. This topic is covered in Unit 3, Lessons 1 and 7.	Children can use the column method to add numbers confidently. Some may have performed this question mentally, rounding 12,999 to 13,000 and then subtracting 1.
6	**20,000**	1	**Possible incorrect answers 200,000 or 2,000 (An answer like this may suggest children have misread the number of zeros or just used the three zeros between the 2 and the 3 in 920,003; they are not confident with place value or partitioning)** This topic is covered in Unit 2, Lesson 2.	Children confidently add and subtract numbers up to 1 million either using formal methods or mental strategies. Children are able to demonstrate clear understanding of place value by recombining partitioned numbers listed out of order.
7	**100,000**	1	**Possible incorrect answer 100,401 (An answer like this may suggest children have included the last three digits of the answer)** This revision topic is covered in Unit 2, Lesson 2.	Children can add and subtract numbers using their knowledge of 100,000s, 10,000s, 1,000s, 100s, 10s and 1s, explaining the role of zero as a place holder.
8	**10,000**	1	**Possible incorrect answer 7,111 (An answer like this may suggest children have added the given numbers)** This topic is covered in Unit 1, Lessons 3 and 4.	Children can clearly understand the place value of each column: ten thousands, thousands, hundreds, tens and ones.

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
9	**299,940**	1	**Possible incorrect answer 240,000 (An answer like this may suggest children are not yet secure on the place value of individual digits)** Children may just subtract the larger digit from the smaller digit but place the larger digit in the wrong column. For example, when working out 300,000 – 60 they may write 6 in the hundred thousands column. Children may not know how to correctly set out the column method when subtracting two numbers that have a different number of digits. This topic is covered in Unit 3, Lesson 3.	Children will be able to perform similar calculations involving powers of 10 mentally, though some may have used the less efficient column method.
10	**58,335**	1	**Possible incorrect answer 105,936 (An answer like this may suggest children have aligned the columns incorrectly)** Children may not know which place value column to start with when adding two whole numbers together. Children may not understand the concept of exchanging between columns. This topic is covered in Unit 3, Lesson 1.	Children can use the column method to add numbers confidently, with increasingly large numbers.
11	**34,515**	1	**Possible incorrect answer 46,525 (An answer like this may suggest children have subtracted the smaller digit from the larger in each column)** This topic is covered in Unit 3, Lesson 3.	Children recognise why exchanges are needed when subtracting whole numbers with more than 4 digits and can use the column method to find the answer.
12	**115,803**	1	**Possible incorrect answer 105,793 (An answer like this may suggest children have forgotten to add the carried digits)** Children may not know which place value column to start with when adding two whole numbers together. Children may not understand the concept of exchanging between columns. This topic is covered in Unit 3, Lesson 1.	Children can use the column method to add numbers confidently, with increasingly large numbers.

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
13	**XV**	1	**Possible incorrect answer 15 (An answer like this may suggest children do not understand that they should answer a question in the form that it is written)** Children may use numerals that are too small before a larger Roman numeral. For example, they may represent 99 as IC (100 minus 1) rather than XCIX (90 + 9). The only pairs of numbers that are used for this subtraction rule are IV, IX, XL, XC, CD and CM. So only I, X and C can be used in this way and they can only come before the two numbers above them in value. This revision topic is covered in Unit 1, Lesson 8.	Children understand the ways in which repeating numerals can be read as a group rather than individually, for example MCCC as 1,000 + 300 = 1,300.
14	**83,786**	1	**Possible incorrect answer 84,214 (An answer like this may suggest children have subtracted the smaller digit from the larger in each column)** Children may not know how to correctly set out the column method when subtracting two numbers that have a different number of digits. This topic is covered in Unit 3, Lesson 3.	Children recognise why exchanges are needed when subtracting whole numbers with more than 4 digits and can use the column method to find the answer.
15	**30,000**	1	**Possible incorrect answer 33,000 or 3,000 or 3 (An answer like this may suggest children are not yet secure on the place value of individual digits)** Children may not be confident in partitioning and recombining numbers. They have not yet made the link between each digit in a number and its place value in a 6-digit number. This topic is covered in Unit 2, Lesson 2.	Children can consistently identify the value of individual digits up to 1,000,000.
16	**10,000**	1	**Possible incorrect answer 100,000 (An answer like this suggests children have noticed that the 100,000 column has changed, so assumed 100,000 had been subtracted)** This topic is covered in Unit 2, Lesson 7 and Unit 3, Lesson 4.	Children confidently add and subtract numbers up to 1 million either using formal methods or mental strategies. Children are able to demonstrate clear understanding of place value by recombining partitioned numbers listed out of order.

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
17	**623,000**	1	**Possible incorrect answer 830,000 (An answer like this may suggest children have miscounted the place holders)** Children often forget to use zero to show when a place has no value; for example, they may record three thousand and forty-five as 345, forgetting to use 0 to show there are no 100s in the hundreds position. This revision topic is covered in Unit 2, Lesson 1.	Children can use their knowledge of place value to recognise and name numbers up to 1,000,000.
18	**75,924**	1	**Any wrong answer (An answer like this may suggest children have forgotten to add carrying figures)** Children may not know which place value column to start with when adding two whole numbers together. Children may not understand the concept of exchanging between columns. This topic is covered in Unit 3, Lesson 1.	Children can use the written method of column addition to add whole numbers with more than 4 digits.
19	**Award 2 marks for all three signs written correctly, as shown.** **<** **>** **<** **Award 1 mark for any two signs written correctly.**	2	**Possible incorrect answer: = for first part (An answer like this may suggest children have misread the numbers as the same)** **Possible incorrect answer: < for second part (An answer like this may suggest children have failed to bridge correctly)** **Possible incorrect answers: = or > for last part (An answer like this may suggest children failed to calculate correctly)** This topic is covered in Unit 1, Lesson 6 and Unit 2, Lesson 4.	Children are able to use the language of 'greater than', 'less than' and 'equal to' when referring to comparisons of calculation answers. They can add a modifier such as 'almost' or 'nearly' to their description when they compare an accurate calculation to an estimate. When ordering numbers, children confidently compare digits in the same column for each number, starting from the left.
20	**304,414**	1	**Any wrong answer (Incorrect answers are likely to result from incorrect alignment of columns)** Children may not know which place value column to start with when adding whole numbers together. Children may not understand the concept of exchanging between columns. This topic is covered in Unit 3, Lesson 1.	Children can use the column method to add numbers confidently, with increasingly large numbers, and are also confident about place values.

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
21	**171,747**	1	**Possible incorrect answer 172,353 (An answer like this may suggest children have subtracted the smaller digit from the larger in each column)** Children may not know how to correctly set out the column method when subtracting two numbers that have a different number of digits. This topic is covered in Unit 3, Lesson 3.	Children can use the column method to perform subtraction with increasingly large numbers.
22	**695** Accept for **1 mark** a complete, correct method, with an answer, which would produce the correct answer if executed correctly. e.g. 12,536 + 21,439 = answer A 34,670 – answer A = wrong answer	2	**Possible incorrect answer 68,645 (An answer like this may suggest children have added all three numbers, instead of using the inverse for the second operation)** Children may choose the wrong numbers when trying to identify an inverse calculation. This topic is covered in Unit 3, Lesson 8.	Children can use the inverse operations of addition and subtraction to check the answers to calculations.
23	**495,844** Accept for **1 mark** a complete, correct method, with an answer, which would produce the correct answer if executed correctly. e.g. 452,000 – 28,612 = answer A 72,456 + answer A = wrong answer	2	**Possible incorrect answer 350,932 (An answer like this may suggest children have subtracted 72,456 from 423,388, instead of using the inverse for the second operation)** Children may choose the wrong numbers when trying to identify the inverse calculation. This topic is covered in Unit 3, Lesson 8.	Children can use the inverse operations of addition and subtraction to check the answers to calculations.

Mark range	Level
0 – 4	Below
5 – 10	Towards
11 – 16	Expected
17 – 20	Secure
21 – 23	Towards greater depth
24 – 26	Greater depth