Varied Fluency
Inverse Operations (Addition and Subtraction)

National Curriculum Objectives:

Mathematics Year 5: (5C2) Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
Mathematics Year 5: (5C4) Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Differentiation:

Developing Questions to support using the inverse to check addition and subtraction of two numbers, with up to 4-digit numbers. Includes use of column format with no exchanging.
Expected Questions to support using the inverse to check addition and subtraction of two numbers, with up to 5-digit numbers. Includes exchanging for both addition and subtraction. Using mostly column format with some linear presentation.
Greater Depth Questions to support using the inverse to check addition and subtraction of two numbers, with up to 5-digit numbers. Includes exchanging for both addition and subtraction. Using mostly linear presentation with numbers presented in context, i.e. money, measurement. Some simple conversions included.

Inverse Operations (Addition and Subtraction)

1a. 4,131 + 2,144 = 6,275. True or false? Complete the inverse operation below to check.

	6	2	7	5
–				

D VF

1b. 3,746 + 5,232 = 8,978. True or false? Complete the inverse operation below to check.

	8	9	7	8
–				

D VF

2a. Use an inverse operation to calculate the missing numbers.

	4	3	5	2
+	□	□	□	□
	7	4	9	7

D VF

2b. Use an inverse operation to calculate the missing numbers.

	1	6	8	2
+	□	□	□	□
	4	8	9	9

D VF

3a. Sal and Simon have a combined score of 7,543 points. Sal scored 2,431 points. Use an inverse operation to calculate Simon's score.

–				

D VF

3b. Bryn and Belle have a combined score of 5,286 points. Bryn scored 3,113 points. Use an inverse operation to calculate Belle's score.

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D VF

4a. Tick the calculations that are correct and the inverse of each other.

A. 3,564 + 2,431 = 5,995 ☐

B. 3,564 – 2,431 = 5,995 ☐

C. 5,995 – 3,564 = 2,431 ☐

D VF

4b. Tick the calculations that are correct and the inverse of each other.

A. 4,783 + 2,251 = 6,989 ☐

B. 6,989 – 4,738 = 2,251 ☐

C. 4,738 + 2,251 = 6,989 ☐

D VF

Inverse Operations (Addition and Subtraction)

5a. 12,561 + 9,273 = 21,834. True or false? Complete the inverse operation below to check.

	2	1	8	3	4
−					

VF

5b. 13,849 + 1,944 = 15,793. True or false? Complete the inverse operation below to check.

	1	5	7	9	3
−					

VF

6a. Use an inverse operation to calculate the missing numbers.

	3	5	7	1	8
+					
	4	8	6	7	5

VF

6b. Use an inverse operation to calculate the missing numbers.

	4	7	3	2	7
+					
	8	6	7	5	4

VF

7a. Leo and Liza have a combined score of 36,491 points. Leo scored 25,623 points. Use an inverse operation to calculate Liza's score.

−					

VF

7b. Mark and Martha have a combined score of 28,562 points. Mark scored 9,243 points. Use an inverse operation to calculate Martha's score.

−					

VF

8a. Tick the calculations that are correct and the inverse of each other.

A. 5,364 + 13,747 = 19,111 ☐

B. 13,747 + 19,111 = 5,364 ☐

C. 5,364 = 13,747 – 19,111 ☐

D. 19,111 – 13,747 = 5,364 ☐

VF

8b. Tick the calculations that are correct and the inverse of each other.

A. 21,919 – 34,033 = 12,114 ☐

B. 21,919 + 12,114 = 34,033 ☐

C. 34,033 – 21,919 = 12,114 ☐

D. 12,114 + 21,919 = 34,303 ☐

VF

Inverse Operations (Addition and Subtraction)

9a. 45,679km + 53,780km = 99,495km. True or false? Complete an inverse operation to check if the answer is correct.

GD VF

9b. 36,487m + 57,264m = 93,715m. True or false? Complete an inverse operation to check if the answer is correct.

GD VF

10a. Use an inverse operation to calculate the missing numbers.

A. 19,482 + ☐ = 36,631

B. 39,291 + ☐ = 51,673

GD VF

10b. Use an inverse operation to calculate the missing numbers.

A. 23,968 + ☐ = 29,763

B. 15,069 + ☐ = 31,345

GD VF

11a. Andi and Alan have combined savings of £96,023. Andi's savings amount to £47,911. Use an inverse operation to calculate the value of Alan's savings.

GD VF

11b. Cath and Carl combined their money to buy a house for £89,089. Cath paid £51,690. Use an inverse operation to calculate how much Carl paid.

GD VF

12a. Tick the calculations that are correct and the inverse of each other.

A. £27.63 + 6,581p = 3,818p ☐

B. 6,581p – £27.63 = 3,818p ☐

C. 6,581p = £27.63 – 3,818p ☐

D. £27.63 + 3,818p = 6,581p ☐

GD VF

12b. Tick the calculations that are correct and the inverse of each other.

A. 1,849p + £11.97 = £30.46 ☐

B. £30.46 + 1,849p = £11.97 ☐

C. £11.97 – 1,849p = £30.46 ☐

D. £30.46 – 1,849p = £11.97 ☐

GD VF

Inverse Operations (Addition and Subtraction)

Developing

1a. True

2a.

	4	3	5	2
+	3	1	4	5
	7	4	9	7

3a.

	7	5	4	3
−	2	4	3	1
	5	1	1	2

4a. A and C

Developing

1b. True

2b.

	1	6	8	2
+	3	2	1	7
	4	8	9	9

3b.

	5	2	8	6
−	3	1	1	3
	2	1	7	3

4b. B and C

Expected

5a. True

6a.

	3	5	7	1	8
+	1	2	9	5	7
	4	8	6	7	5

7a.

	3	$^{5}\not{6}$	$^{1}4$	$^{8}\not{9}$	$^{1}1$
−	2	5	6	2	3
	1	0	8	6	8

8a. A and D

Expected

5b. True

6b.

	4	7	3	2	7
+	3	9	4	2	7
	8	6	7	5	4

7b.

	$^{1}\not{2}$	$^{1}8$	5	$^{5}\not{6}$	$^{1}2$
−		9	2	4	3
	1	9	3	1	9

8b. B and C

Greater Depth

9a. False, the correct answer is 99,459km.

10a. A = 17,149; B = 12,382

11a. £48,112

12a. B and D

Greater Depth

9b. False, the correct answer is 93,751m.

10b. A = 5,795; B = 16,276

11b. £37,399

12b. A and D