ADD AND SUBTRACT INTEGERS

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

Line up the digits in columns: Hundreds · Tens · Ones

Always start with the ones.

5 + 7 = 12 ones. Write 2, then exchange 10 ones for 1 ten.

	T	O
	3	5
+	4	7
	8	2
	1	

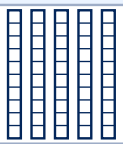
1 Use the base ten to add. Write the answer.

a)

	Tens	Ones
32		□□
+ 25		□□□□□

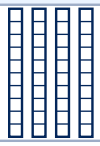
32 + 25 = ☐

b)

	Tens	Ones
52		□□
+ 16		□□□□□ □

52 + 16 = ☐

2 Here is 48 in base ten. Cross out base ten to subtract.

	Tens	Ones
48		□□□□□ □□□

a) 48 – 23 = ☐

b) 48 – 35 = ☐

3 Complete the column additions.

a)

	H	T	O
	2	4	3
+	1	2	5
	☐	☐	☐

b)

	H	T	O
	1	5	6
+		3	7
	☐	☐	☐

c)

	H	T	O
	4	0	8
+	2	7	1
	☐	☐	☐

4 Complete the column subtractions.

a)

	H	T	O
	5	8	6
–	2	4	3
	☐	☐	☐

b)

	H	T	O
		7	2
–		3	8
	☐	☐	☐

c)

	H	T	O
	4	0	5
–	1	6	2
	☐	☐	☐

ADD AND SUBTRACT INTEGERS

SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

Line up the ones digits. Work from right to left.

10 or more in a column? Exchange 10 for 1 in the next column.
Top digit too small to subtract? Exchange 1 from the next column.

Check: answer + number taken away = start number.

	H	T	O
	1	4	8
+	2	7	4
	4	2	2
	1	1	

1 Work out each addition.

a)

	Th	H	T	O
	3	4	2	5
+	1	3	6	2

b)

	Th	H	T	O
	2	7	5	8
+	1	1	4	6

c)

	Th	H	T	O
	4	6	3	7
+		2	8	5

2 Work out each subtraction.

a)

	Th	H	T	O
	6	8	7	5
−	2	4	1	3

b)

	Th	H	T	O
	5	3	4	2
−	1	8	1	7

c)

	Th	H	T	O
	4	0	0	6
−	1	3	5	2

3 Amir has worked out 352 + 46. His answer is 812.

Amir's working

	H	T	O
	3	5	2
+	4	6	
	8	1	2

a) What mistake has Amir made?

.....

.....

b) Work out 352 + 46 correctly. ☐

4 A school raised £1248 at a summer fair and £876 at a concert.

a) How much did the school raise altogether? ☐

b) How much more was raised at the fair than at the concert? ☐

ADD AND SUBTRACT INTEGERS

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Use the column method for harder calculations: line up the digits from the right and exchange when you need to. Use a mental method when it is quicker, for example 465 + 199 = 465 + 200 − 1. Check answers with the inverse operation.

FLUENCY

1 Use the column method to work out each calculation.

a) 37 485 + 6 278 ☐

b) 9 064 + 18 579 ☐

c) 52 316 − 8 749 ☐

d) 70 003 − 24 586 ☐

2 Use an efficient mental method to work out each calculation.

a) 648 + 199 ☐

b) 823 − 298 ☐

c) 1500 − 726 ☐

d) 3999 + 2476 ☐

REASONING

3 Fill in the missing digits.

a)

$$\begin{array}{r} 4\,\square\,7\,3 \\ +\ 2\,6\,\square\,8 \\ \hline 7\,2\,6\,\square \end{array}$$

b)

$$\begin{array}{r} 8\,\square\,0\,4 \\ -\ 3\,6\,\square\,7 \\ \hline 4\,6\,5\,\square \end{array}$$

4 Ella says, "5000 − 1999 has the same answer as 5001 − 2000." Is she right? Explain how you know, and give the answer.

.....

.....

.....

ADD AND SUBTRACT INTEGERS

GREATER DEPTH

NAME _____ CLASS _____ DATE _____

REASONING

1 Is each statement always, sometimes or never true? Circle your answer.

Give an example to support each answer.

a) Two 3-digit numbers add to a 3-digit number. ALWAYS SOMETIMES NEVER

b) 4-digit number – 3-digit number = 4-digit number ALWAYS SOMETIMES NEVER

c) The difference of two odd numbers is even. ALWAYS SOMETIMES NEVER

d) + 99 then – 100 gives 1 less than you started with. ALWAYS SOMETIMES NEVER

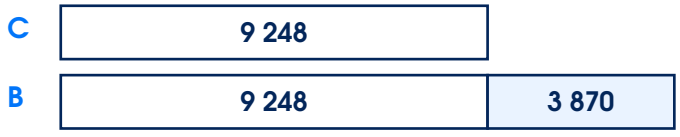
PROBLEM SOLVING

2 Use each digit card once to make two 3-digit numbers.

2	4	5	7	8	9

a) Greatest possible total ☐ **b)** Smallest possible difference ☐

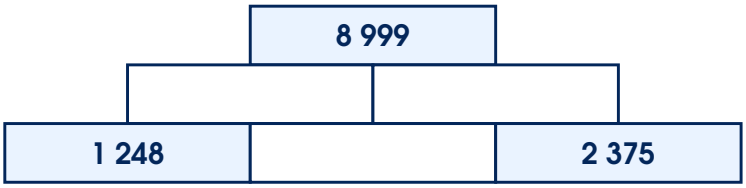
3 Town C has 9 248 people. Town B has 3 870 more people than town C. Towns A and B have 24 615 people altogether. How many people live in town A?



Town A = ☐

★ CHALLENGE FOR ALL

4 Each brick is the sum of the two bricks below it. Complete the pyramid.



ADD AND SUBTRACT INTEGERS

ANSWERS

BUILDING BLOCKS

1 a) 57 · b) 68
2 a) 25 · b) 13
3 a) 368 · b) 193 · c) 679
4 a) 343 · b) 34 · c) 243

SUPPORT

1 a) 4787 · b) 3904 · c) 4922
2 a) 4462 · b) 3525 · c) 2654
3 a) He has not lined up the ones: 46 must go under the 5 and 2 (tens and ones), not under the 3 and 5. b) 398
4 a) £2124 · b) £372

CORE

1 a) 43 763 · b) 27 643 · c) 43 567 · d) 45 417
2 a) 847 · b) 525 · c) 774 · d) 6475
3 a) 4573 + 2688 = 7261 (missing 5, 8, 1) · b) 8304 – 3647 = 4657 (missing 3, 4, 7)
4 Yes. Adding 1 to both numbers does not change the difference. Both equal 3001.

GREATER DEPTH

1 a) Sometimes (e.g. 100 + 200 = 300, but 600 + 700 = 1300) · b) Sometimes (e.g. 5000 – 200 = 4800, but 1000 – 999 = 1) · c) Always · d) Always (+99 – 100 = –1)
2 a) 1826 (e.g. 974 + 852) · b) 29 (527 – 498)
3 B = 9248 + 3870 = 13 118, so A = 24 615 – 13 118 = 11 497
4 Middle brick 2688; second row 3936 and 5063; top 8999