Using rounding to estimate and check answers

Discover

1   17,877 + 4,012

TTh	Th	H	T	O
1	7	8	7	7
+ 4	0	1	2	
5	7	9	9	7

57997

[1 mark]

Bella

1   **a)** How could Bella use rounding to check her answer?

     What should the answer be close to?

  b) What mistake has Bella made?

     What is the correct answer?

Share

a)

4,012

17,877

| 0 | 2,000 | 4,000 | 6,000 | 8,000 | 10,000 | 12,000 | 14,000 | 16,000 | 18,000 | 20,000 |
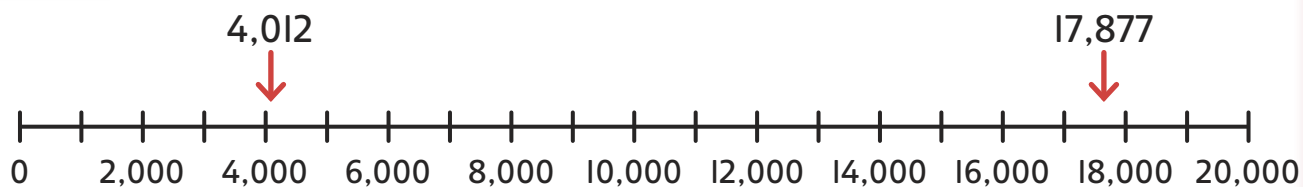
Bella could round up both numbers to the nearest thousand and add them.

17,877 is close to 18,000.

4,012 is close to 4,000.

18,000 + 4,000 = 22,000

Bella's answer should be close to 22,000.

> I worked out what the numbers were close to and then added them together.

b) Bella has lined up the numbers incorrectly in the column addition.

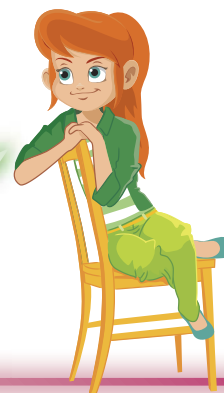The thousands need to be lined up underneath the thousands, and so on.

Bella's working

TTh	Th	H	T	O
1	7	8	7	7
+	4	0	1	2
5	7	9	9	7

Correct method

TTh	Th	H	T	O
1	7	8	7	7
+		4	0	1	2
2	1	8	8	9
	1			

> 21,889 is close to 22,000 so the estimate was sensible.

The correct answer is 21,889.
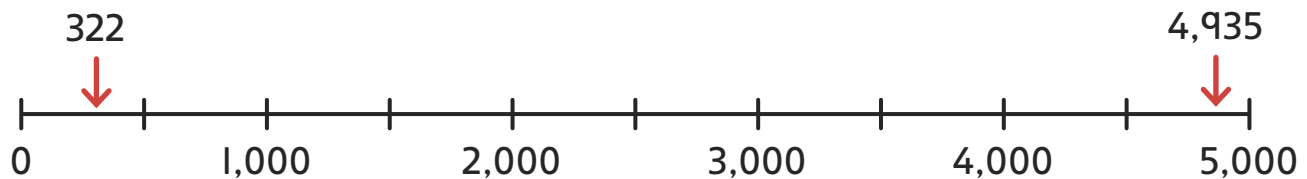
Think together

1 Bella works on the next question.

Use rounding to show that Bella's answer must be incorrect.

> **2** 4,935 − 322
>
> | | Th | H | T | O |
> |---|----|----|----|----|
> | | 4 | 9 | 3 | 5 |
> | − | 3 | 2 | 2 | |
> | | 1 | 7 | 1 | 5 |
> | | | | | |
>
> 1715
>
> [I mark]

322   4,935

0   1,000   2,000   3,000   4,000   5,000

4,935 is close to ☐ .

322 is close to ☐ .

☐ − ☐ = ☐

What mistake has Bella made?

2 Use rounding to estimate the answer to the following calculations.

a) 17,240 + 28,385

b) 7,010 − 3,997

Now work out the answers to each of the questions.

Were your estimates sensible?

3

CHALLENGE

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a) How much do all of the items cost in total?

b) What is the difference in price between the car and the laptop?

I wonder if there are different strategies I could use to work out the answers.

I will use estimates to check if my answers are reasonable. I think there might be different estimates I could use.

→ **Practice book 5A p70**