White Rose Maths

Year 4 - Autumn - Block 1

Place Value

Solve the following calculation:

$$XIV + XXXVI = ____$$

How many other calculations, using Roman Numerals, can you write to get the same total?

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Mo says,



In the 10 times table, all the numbers have a zero. Therefore, in Roman Numerals all multiples of 10 have an X

Research and give examples to prove whether or not Mo is correct.

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A whole number is rounded to 370
What could the number be?
Write down all the possible answers.

370

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Two different two-digit numbers both round to 40 when rounded to the nearest 10

The sum of the two numbers is 79

What could the two numbers be?

Is there more than one possibility?

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Whitney says:



847 to the nearest 10 is 840

Do you agree with Whitney?

Explain why.

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Always, Sometimes, Never

Explain your reasons for each statement.

- A number with a five in the tens column rounds up to the nearest hundred.
- A number with a five in the ones column rounds up to the nearest hundred.
- A number with a five in the hundreds column rounds up to the nearest hundred.

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When a whole number is rounded to the nearest 100, the answer is 200

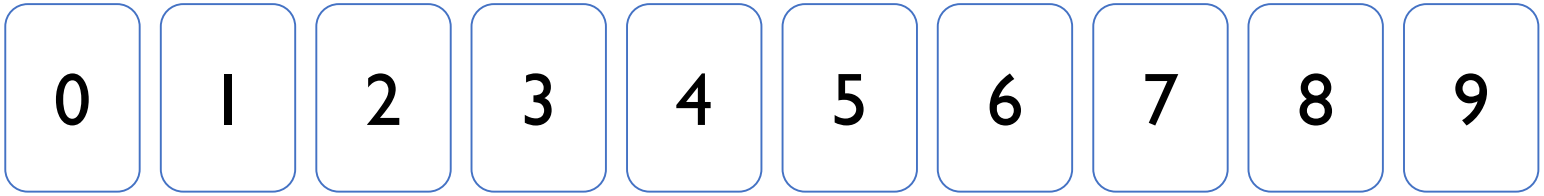
When the same number is rounded to the nearest 10, the answer is 250

What could the number be?

Is there more than one possibility?

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Using the digit cards 0 to 9, can you make whole numbers that fit the following rules?
You can only use each digit once.



1. When rounded to the nearest 10, I round to 20

2. When rounded to the nearest 10, I round to 10

3. When rounded to the nearest 100, I round to 700

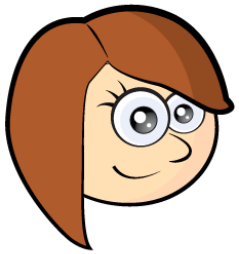
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Always, Sometimes, Never

- When counting in hundreds, the ones digit changes.
- The thousands column changes every time you count in thousands.
- To count in thousands, we use 4- digit numbers.

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Rosie says,



If I count in thousands from zero, I will always have an even answer.

True or false?

Explain how you know.

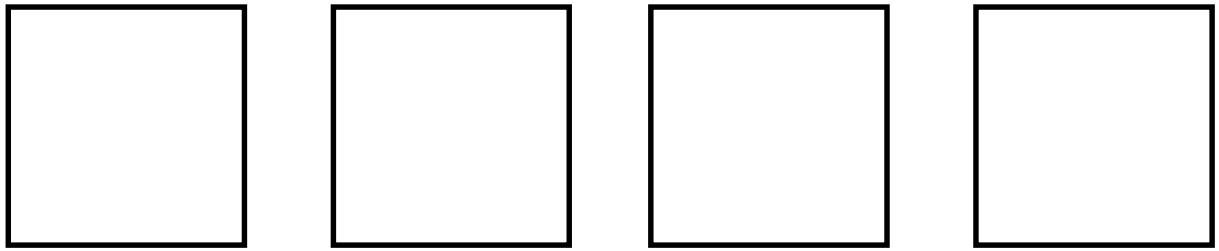
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Create four 4-digit numbers to fit the following rules:

- The tens digit is 3
- The hundreds digit is two more than the ones digit
- The four digits have a total of 12

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Use the clues to find the missing digits.



The thousands and tens digit multiply together to make 36

The hundreds and tens digit have a digit total of 9

The ones digit is double the thousands digit.

The whole number has a digit total of 21

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Which is the odd one out?

3,500

3,500 ones

2 thousands and 15 hundreds

35 tens

Explain how you know.

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Jack says:



My number has five thousands, three hundreds and 64 ones.

Amir says:

My number has fifty three hundreds, 6 tens and 4 ones.



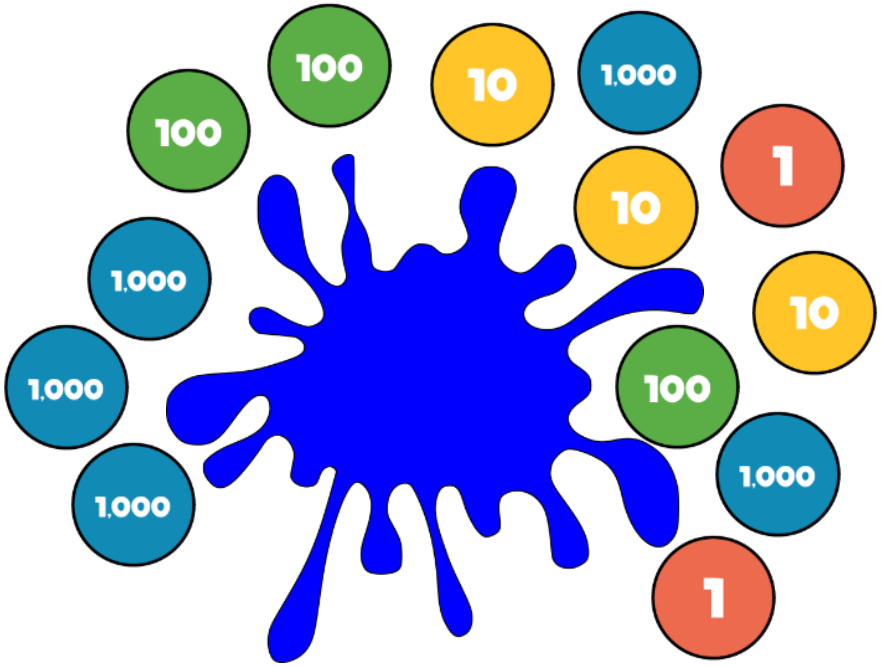
Who has the largest number?
Explain.

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Some place value counters are hidden.

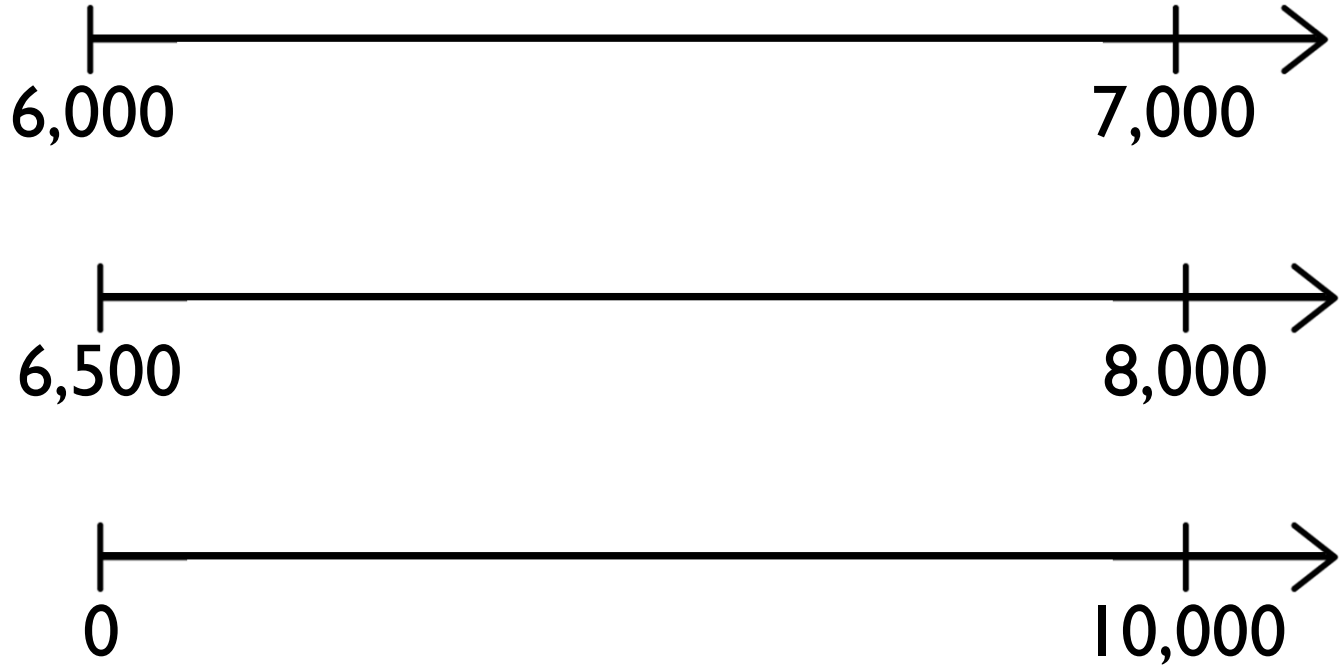
The total is six thousand, four hundred and thirty two.

Which place value counters could be hidden?
Think of at least three solutions.



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Place 6,750 on each of the number lines.



Are they in the same place on each line? Why?

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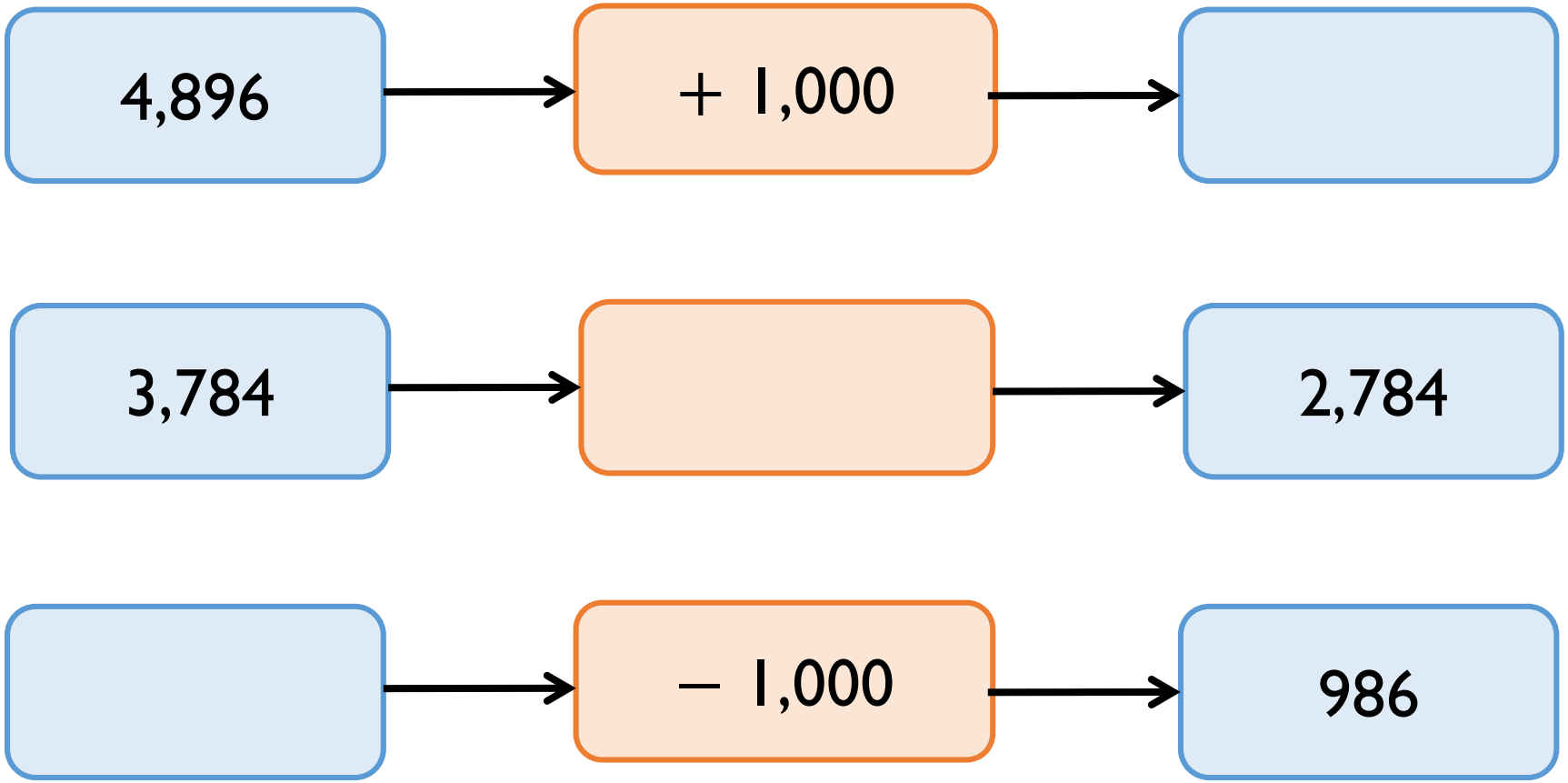
If the number on the number line is 9,200, what could the start and end numbers be?

Find three different possible answers



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Complete the missing boxes:



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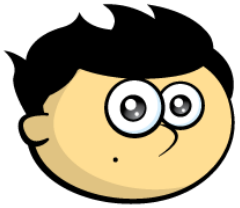
10 less than my number is 1,000 more than 5,300.

What is my number?

Can you write your own problem similar to this?

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Jack says,



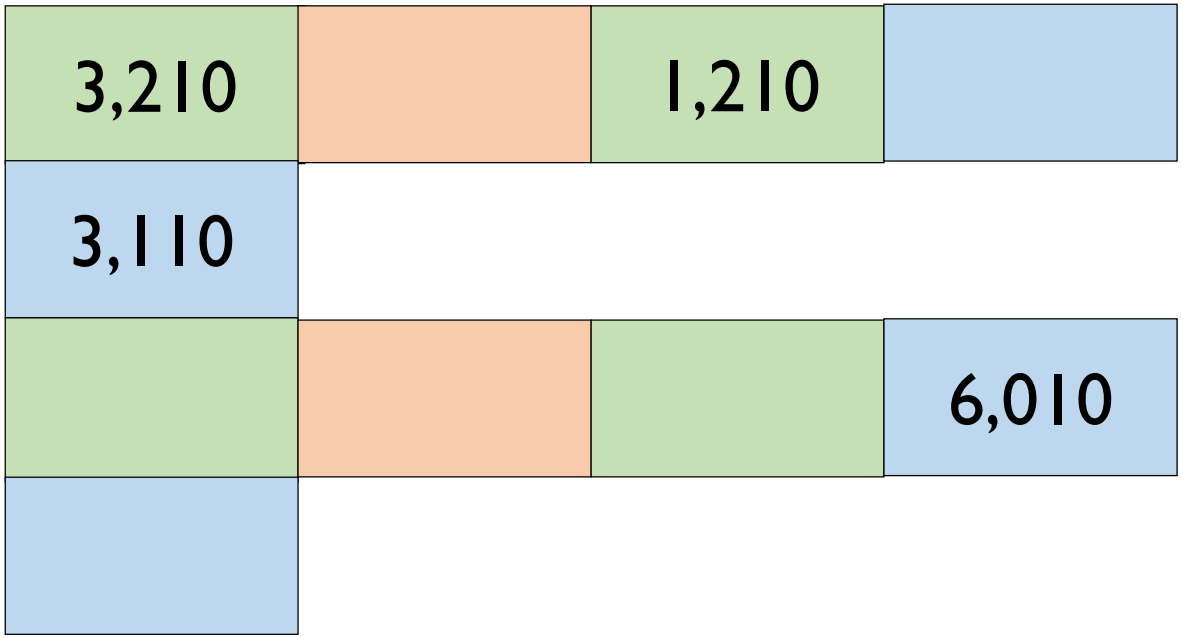
When I add 1,000 to 4,325, I only have to change 1 digit.

Is he correct?

Which digit does he need to change?

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Fill in the boxes by finding the patterns:



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I am thinking of a number. It is greater than 3,000, but smaller than 5,000

The digits add up to 15
What could the number be?

Write down as many possibilities as you can.

The difference between the largest and smallest digit is 6. How many numbers do you now have?

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Use digit cards 1 to 5 to complete the comparisons:

$564\square < \square 73\square$

$2\square 38 > 23\square 5$

You can only use each digit once.

1	2	3	4	5

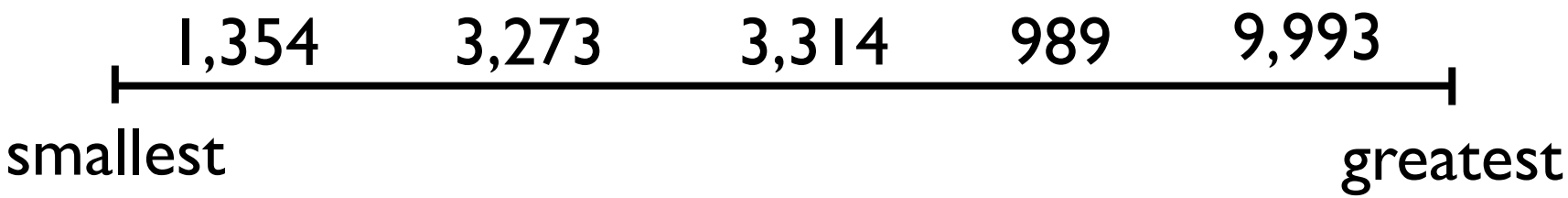
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Alex has ordered five 4-digit numbers.
The smallest number is 3,450, and the largest number is 3,650

All the other numbers have digit totals of 20

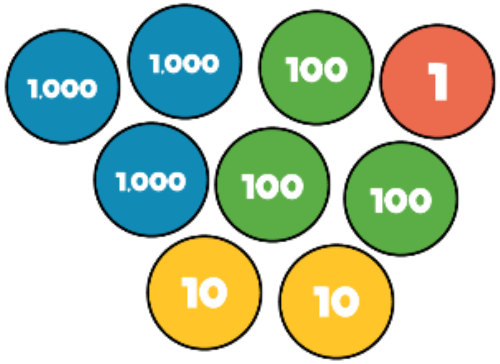
What could the other three numbers be?

What mistake has been made?



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Put these amounts in ascending order.



Half of 2,400

LXXXVI

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Put one number in each box so that the list of numbers is ordered smallest to largest.

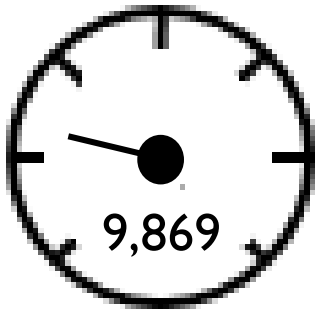
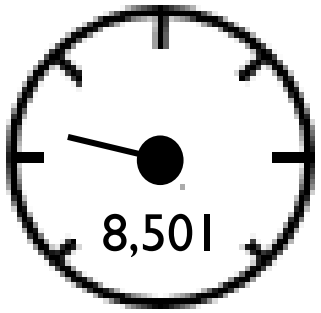
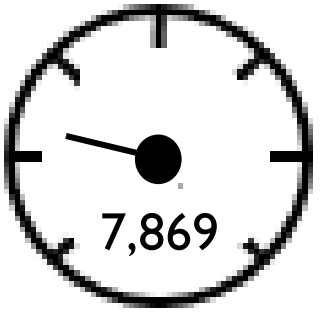
1000s	100s	10s	1s
1	1		3
1		2	7
1	2	5	
1		5	9
1	3	8	
1		1	5

Can you find more than one way?

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David's mum and dad are buying a car.

They look at the following cars:

Car A	Car B	Car C
		
Approximately 10,000 miles	Approximately 8,000 miles	Approximately 8,000 miles

Are all of the cars correctly advertised?

Explain your reasoning.

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A number is rounded to the nearest thousand.

The answer is 7,000

What could the original number have been?

Give five possibilities.

What is the greatest number possible?

What is the smallest number possible?

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Whitney is counting in 25s and 1,000s.
She says:

- Multiples of 1,000 are also multiples of 25
- Multiples of 25 are therefore multiples of 1,000

Do you agree with Whitney?
Explain why.

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Ron is counting down in 25s from 790

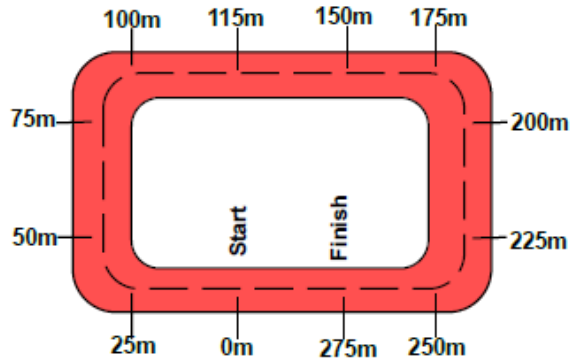
Will he say 725?

Explain your answer.

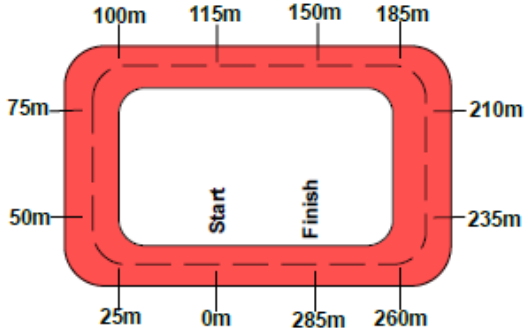
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Two race tracks have been split into 25m intervals.

Race track A



Race track B



What errors have been made?

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Can you spot the mistake in these number sequences?

a) 2, 0, 0, −2, −4

b) 1, −2, −4, −6, −8

c) 5, 0, −5, −10, −20

Explain how you found the mistake and convince me you are correct.

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Teddy counted down in 3s until he reached −18

He started at 21, what was the tenth number he said?

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