# White Rose Maths
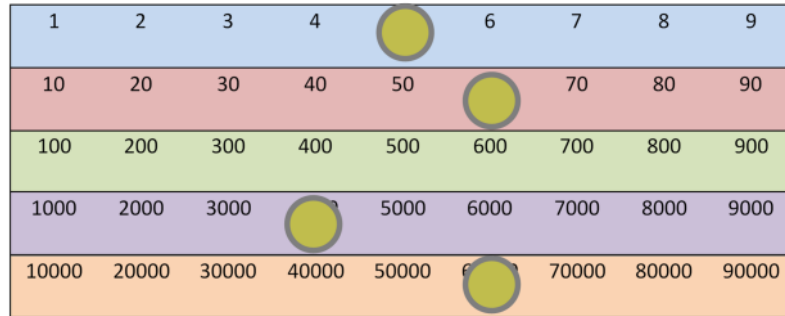
# Addition and Subtraction

Amir is discovering numbers on a Gattegno chart.
He makes this number.

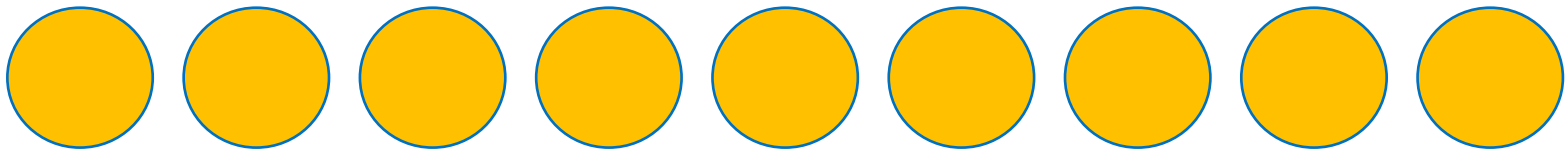| 1 | 2 | 3 | 4 | ⬤ | 6 | 7 | 8 | 9 |
|------|------|------|------|------|------|------|------|------|
| 10 | 20 | 30 | 40 | 50 | ⬤ | 70 | 80 | 90 |
| 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 |
| 1000 | 2000 | 3000 | ⬤ | 5000 | 6000 | 7000 | 8000 | 9000 |
| 10000 | 20000 | 30000 | 40000 | 50000 | ⬤ | 70000 | 80000 | 90000 |

Amir moves one counter three spaces on a horizontal line to create a new number.

When he adds this to his original number he gets 131,130

Which counter did he move?

| 10,000 | 20,000 | 30,000 | 40,000 | 50,000 | 60,000 | 70,000 | 80,000 | 90,000 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1,000  | 2,000  | 3,000  | 4,000  | 5,000  | 6,000  | 7,000  | 8,000  | 9,000  |
| 100    | 200    | 300    | 400    | 500    | 600    | 700    | 800    | 900    |
| 10     | 20     | 30     | 40     | 50     | 60     | 70     | 80     | 90     |
| 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      |

# Work out the missing numbers.

| | | | | | |
|---|---|---|---|---|---|
| | ? | 4 | ? | 3 | ? |
| + | 2 | ? | 5 | ? | 2 |
| | 7 | 8 | 5 | 2 | 9 |

Eva makes a 5-digit number.

Mo makes a 4-digit number.

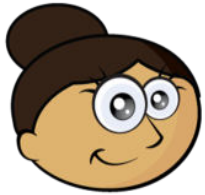The difference between their numbers is 3,465

What could their numbers be?

Rosie completes this subtraction incorrectly.

$$
\begin{array}{r}
2\,8\,7\,0\,1 \\
-\quad 7\,6\,2\,1 \\
\hline
2\,1\,1\,8\,0 \\
\hline
\end{array}
$$

Explain the mistake to Rosie and correct it for her.

# True or False?

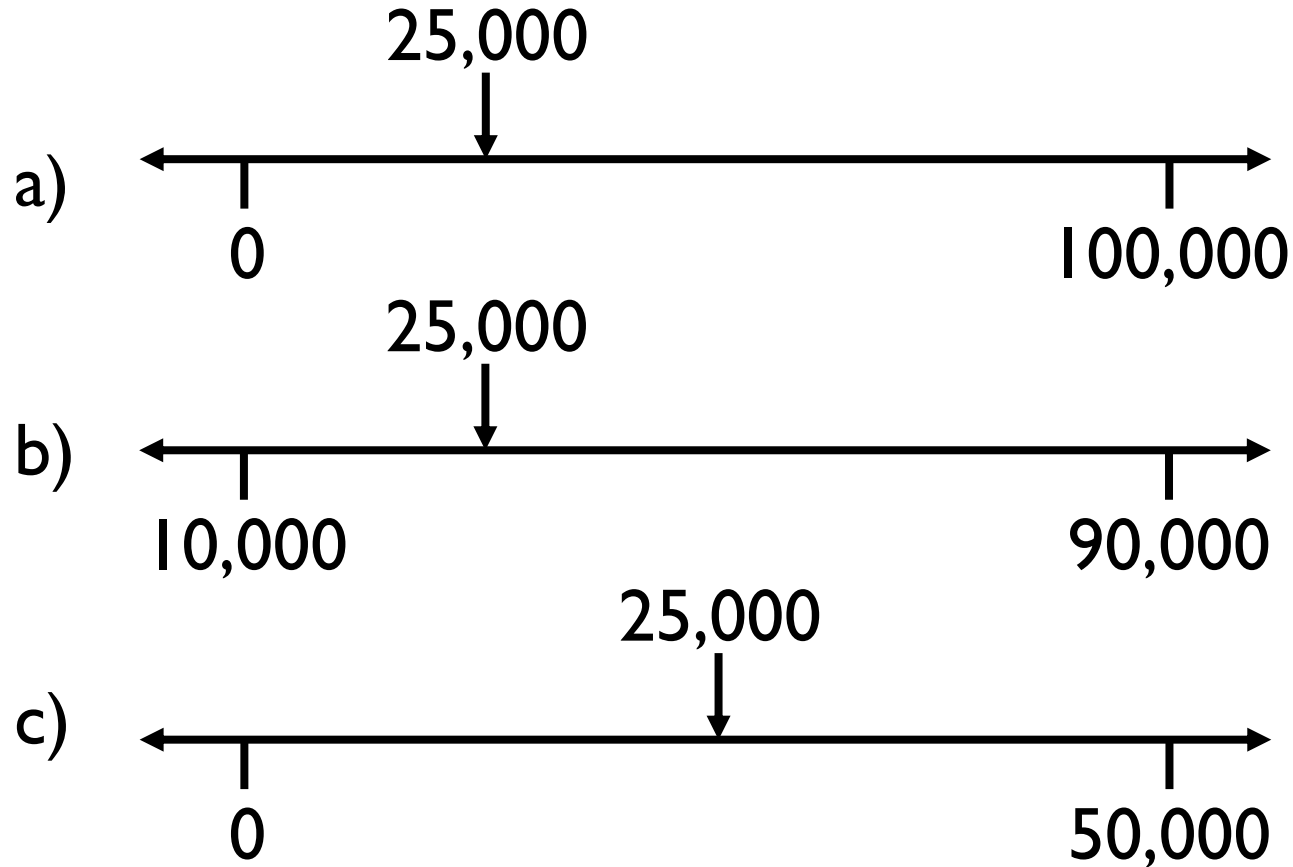$$49,999 - 19,999 = 50,000 - 20,000$$

I did not need to use a written method to work this out.

Dora

Can you explain why Dora's method work?

Can you think of another example where this method could be used?

Which estimate is inaccurate?

a)

25,000

0          100,000

b)

25,000

10,000          90,000

c)

25,000

0          50,000

Explain how you know.