

Original Numbers

220 376 90 246 142

I began with a set of five numbers, picked randomly from level four of the interactive activity.

Ascending Order

90 142 220 246 376

Firstly, I placed the numbers in ascending order.

Finding the Difference

90 142 220 246 376
 └──┬──┘ └──┬──┘ └──┬──┘ └──┬──┘
 +52 +78 +26 +130

Next, I found the difference between each number in comparison to the one above it.

Smallest Difference

26

I then worked out the smallest difference between two of the numbers.

Dividing First Value

$$90 \div 26 \\ = 3.46 \dots$$

Then, I took the first number in the sequence and divided it by the smallest difference between two of the numbers.

Rounding

3

Once I had performed that calculation, I then rounded the result to the nearest whole number.

Multiplying Smallest Difference

$$26 \times 3$$

$$= 78$$

Subtraction from First Value

$$90 - 78$$

$$= 12$$

Creating the Formula

26 shifted up by 12

Creating the Inverse Formula

$$26 - 12$$

$$= 14$$

26 shifted down by 14

Afterwards, I went back to the smallest difference between two numbers in this sequence and multiplied it by the answer, of rounding it to the nearest whole number.

Following on from that, I took the sum of the the previous calculation and subtracted it from the first value in the sequence.

To finish with, I used the times table (smallest difference between two of the numbers) and the calculation finding the difference between the first value in the sequence and the times table, to create a formula.

Finally, I found the formula for the table being shifted down, by doing the extra step of the amount shifted up by taking away from the times table to find the inverse option.