

Left overs

Problem sheet 2

Remainders

Find numbers with this property:

When divided by each of the numbers 2 to 6, the remainder is always one less than the number they have been divided by.

Can you find the smallest number with this property?

For example:

$$23/2 = 11 \text{ remainder } 1$$

$$23/3 = 7 \text{ remainder } 2$$

$$23/4 = 5 \text{ remainder } 3$$

$$23/5 = 4 \text{ remainder } 3$$

So 23 does not work because it has a remainder of 3, not 4, when divided by 5.