

I'm thinking of a number.

My number is both a multiple of 5 and a multiple of 6.

What could my number be?

What else could it be?

What is the smallest number it could be?

I'm thinking of a number.

My number is a multiple of 4, 5 and 6.

What could my number be?

What else could it be?

What is the smallest number it could be?

I'm thinking of a number that is 1 more than a multiple of 7.

My friend is thinking of a number that is 1 more than a multiple of 4.

Could we be thinking of the same number?

I'm thinking of a number that is 3 more than a multiple of 5.

My friend is thinking of a number that is 8 more than a multiple of 10.

Could we be thinking of the same number?

I'm thinking of a number that is 3 more than a multiple of 6.

My friend is thinking of a number that is 2 more than a multiple of 4.

Could we be thinking of the same number?

Here's a challenging extension:

We know that

When 59 is divided by 5, the remainder is 4

When 59 is divided by 4, the remainder is 3

When 59 is divided by 3, the remainder is 2

When 59 is divided by 2, the remainder is 1

Can you find a number with the property that when it is divided by each of the numbers 2 to 10, the remainder is always one less than the number it has been divided by?

Can you find the smallest number that satisfies this condition?