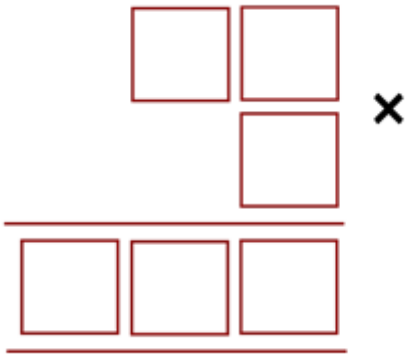
MULTIPLICATION CHALLENGE

Use the digits 1 to 6, only once, in the six boxes to make the multiplication correct.



How many ways can you do this?

How can you be sure?

HELP

How are you going to solve this problem?

Are you going to use trial and error to solve this problem?

Can you think of a systematic way of finding the answer(s)? Remember you can only use the numbers 1 to 6 once.

Thinking systematically means you have a plan to look at all the possibilities in an ordered way.

For example, you might start with the two digit numbers that begin with the number 1.

11, 12, 13, 14, 15, 16

Already we can see that 11, is not possible, as you can only use the digit 1 once. Now what digits will we multiply these numbers with?

Remember the answer must be a three-digit number.

If I multiply each of these numbers by the largest number 6, what do I find?

I cannot multiply 16 by 6 as I can only use the number 6 once.

The other numbers multiplied by 6 have answer with two digits. We need the answer to have three digits so none of these numbers are possible.

Now thinking systematically, list all of the numbers that could start with 2.

21, 22(no-only allowed one 2), 23, 24, 25, 26

Now remember the answer must result in a three-digit number and you are only allowed to

use the digits 1 to 6 once.

Good luck, I'm sure you can solve this problem.

NEXT

Congratulations you have solved the problem.

Now I want you to write down how you checked that you had all the possible solutions.

Imagine you have to explain to the other learners how to solve the problem systematically.

How did you do this?

You could look at the help section which introduces the idea of finding the answer(s) systematically.

Some of the other learners may be finding this quite difficult. How would you explain to them the systematic approach you used to find the answer(s).