

MINIMISING OUTPUT



The smallest number that can be divided exactly by 2, 3 and 4 is 12.

What is the smallest number that can be divided exactly by the numbers 2, 3, 4, 5 and 6?

What is the smallest number that can be divided exactly by the numbers 2, 3, 4, 5, 6, 7, 8 and 9?

Help

Start with “What is the smallest number that divides exactly by 2, 3, 4, and 5?”

Is it $120 = 2 \times 3 \times 4 \times 5$? Why or why not?

How did you find the right answer?

Then ask yourself: “What is the smallest number that divides exactly by 2, 3, 4, 5 and 6?”

Does that change the answer? Why or why not?

Now include 7 in the list. Does that change the answer?

The question to be answered was “What is the smallest number that can be divided exactly by the numbers 2, 3, 4, 5, 6, 7, 8 and 9?” It is easier to get the final solution in stages by including **one more number in the list at each stage**. So can you keep trying and get the final answer?

Extension

The list of numbers in the question can be extended to include 10, then extended to include 10 and 11 and so on...

Carry on this process to see if you can find any patterns.