

Strategies Toolkit

Connect

Ben made an Input/Output machine that uses two operations.
Here is a table for Ben's machine.
What does Ben's machine do to each input number?

Input	Output
1	2
2	5
3	8
4	11
5	14

Strategies

- Make a table.
- Use a model.
- Draw a diagram.
- Solve a simpler problem.
- Work backward.
- Guess and check.
- Make an organized list.
- Use a pattern.
- Draw a graph.

Understand

What do you know?

- The machine uses two operations on an input number. The operations could be add, subtract, multiply, or divide.

Plan

Think of a strategy to help you solve the problem.

- You can **use a pattern**.
- Analyse the pattern in the *Output* column to find out what the machine does to each input number.

Solve

The numbers in the *Output* column increase by 3.

This suggests the pattern involves multiples of 3.

Which two operations does Ben's machine use?

Input	Output
1	2
2	5
3	8
4	11
5	14

Look Back

Find the pattern rule for the output numbers.

Extend this pattern.

Use the operations in the machine to extend the pattern of the output numbers.

Check the numbers in both patterns match.

Abi made an Input/Output machine that uses two operations.

Here is a table for Abi's machine.

Find out what the machine does to each input number.



Input	Output
1	5
2	7
3	9
4	11
5	13

Show *and* Share

Explain the strategy you used to solve the problem.