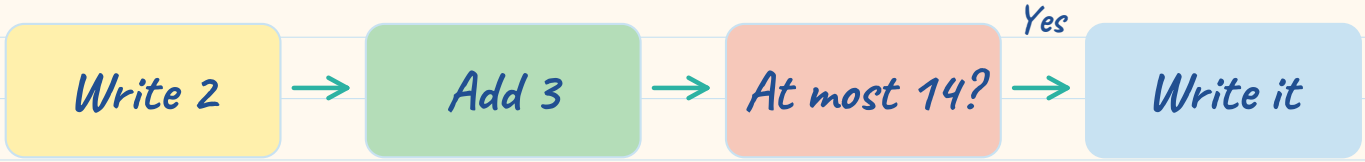
Number patterns and algorithms

Number · VC2M4N10

An algorithm is an ordered set of steps. It can include a yes/no decision.



Yes: write & add 3 again. No: stop.

Output: 2, 5, 8, 11, 14

☆ Follow an addition algorithm

Start at 2. Record it. Add 3 to get the next number.

If the next number is at most 14, record it and repeat.

Output: 2, 5, 8, 11, 14. Stop before 17.

☆ Rules with two operations

Input 3. × 2 then + 5: (3 × 2) + 5 = 11.

Repeat × 2 then + 5: 3, 11, 27, 59.

Follow the order; five recorded terms need four steps.

☆ Compare pattern rules

Doubling: 2, 4, 8, 16, 32 (× 2 each time).

Growing steps: 9, 16, 30, 51, 79.

With jumps +7, +14, +21, +28, the next jump is +35.

☆ Create a rule and test it

Choose a start, a + or × rule, and a stopping test.

Example: start 3, add 4; record numbers at most 19.

3, 7, 11, 15, 19. Now change the rule and describe it.

Remember...

Spreadsheet: put 2 in A1 and =A1*2 in A2.

Fill A2 down to A5: 2, 4, 8, 16, 32. Explain the rule.