Tables and rules

6 questions | 15 marks

Equivalent correct methods earn the corresponding marks.

1. For $y = 2n + 5$, find the outputs for n=0,1,2. [2 marks]

2×0+5=5; 2×1+5=7; 2×2+5=9.

Answer: 5,7,9.

2. For $y = 6n$, find the output at n=4. [2 marks]

6×4=24.

Answer: 24.

3. Complete the missing output using the constant-addition pattern. [2 marks]

Input-output pairs

Input	Output
0	2
1	6
2	10
3	?

Add 4 each time: 2,6,10,14.

Answer: 14.

4. Give a simple rule for the supplied pairs and check it at n=2. [3 marks]

Pairs

n	y
0	2
1	6
2	10
3	14

Each input increase of 1 adds 4 to output.

At n=0 the output is 2.

Answer: $y = 4n + 2$; at n=2 it gives 10.

5. For $y = 3n + 1$, find the input giving output 22. [3 marks]

3n+1=22.

Subtract 1: 3n=21.

Divide by 3: n=7.

Answer: 7.

6. Does $y = 2n + 4$ match every pair (1,6),(2,8),(3,11)? Explain. [3 marks]

2×3+4=10.

Testing only the first two rows would miss the mismatch.

Answer: No. At input 3 it gives 10, not 11.