Varying inputs in a digital formula table

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Use $y = 2x + 1$ at $x = 0$, 1, 2 and 3. List the outputs. [2 marks]

Substitution gives 1, 3, 5 and 7 respectively.

Answer: 1, 3, 5, 7

2. Use $P = 4s$ for square side lengths 2, 5 and 8 cm. [2 marks]

Multiply each side length by 4: 8, 20, 32.

Answer: 8 cm, 20 cm, 32 cm

3. Cell A2 holds n. Write a spreadsheet formula for $5n + 6$. [1 mark]

Use * for multiplication and A2 for the input.

Answer: =5*A2+6

4. For $C = 3n + 5$, explain the cost change when n rises from 4 to 5. [2 marks]

$C(4) = 17$ and $C(5) = 20$.

The $3n$ term increases by 3; the fixed fee does not change.

Answer: An increase of 3 dollars.

5. Use $A = n^2$ at $n = 1$, 2, 3 and 4. Are consecutive outputs equally spaced? [2 marks]

The differences are 3, 5 and 7.

They are not constant.

Answer: 1, 4, 9, 16; no.

6. A student uses =2*A2+4 for $2(n + 4)$. At input 3, find the student's answer and the correct answer, then correct the formula. [3 marks]

The student's calculation is $2 \times 3 + 4 = 10$.

The intended calculation is $2(3 + 4) = 14$.

Include brackets around the sum.

Answer: Student: 10. Correct: 14. Formula: =2*(A2+4).