MATHEMATICS ADVANCED YEAR 11 - MODULE 1 - LESSON 2

Function Notation & Evaluation

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name _____

Date _____

Class _____

1. Key Ideas

How does a taxi meter know what to charge? It follows a simple rule: a fixed cost plus a rate for every kilometre travelled. In mathematics, we write this rule using function notation — and it opens the door to everything from economics to engineering.

- How to evaluate $f(a)$ for numerical and algebraic inputs
- That $f(x)$ describes a rule, not a multiplication

2. Success Criteria

By the end, you should be able to:

- How to evaluate $f(a)$ for numerical and algebraic inputs
- The meaning of the difference quotient
- How to interpret function notation in real-world contexts

3. Key Terms

Why brackets
essential when substituting negatives or algebraic terms

function
always all real numbers

The process
always the same: replace every instance of the independent variable with the given value, then simplify using the correc

The function rule
the recipe, and the input is the ingredient you're using

Negative inputs
a common source of errors

brackets
your best defence against mistakes

4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

Prompt	Your answer
Main concept	
Important example	
Common mistake to avoid	
How this links to the next lesson	

5. Short Answer Questions

1. Explain this lesson goal in your own words: "How to evaluate $f(a)$ for numerical and algebraic inputs". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "The meaning of the difference quotient". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Function Notation & Evaluation: "How to interpret function notation in real-world contexts".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Function Notation & Evaluation but does not use evidence or reasoning.

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

7. Multiple Choice

1. What is the best first step when answering a question about Function Notation & Evaluation?

☐ A. Identify the key concept being tested

☐ B. Write every fact from memory

☐ C. Ignore the command word

☐ D. Skip examples and evidence

2. Which answer would show stronger understanding of Function Notation & Evaluation?

☐ A. An answer with accurate terms and reasoning

☐ B. A copied definition only

☐ C. A single-word response

☐ D. An answer with no example

3. What should you do if a question asks you to explain?

☐ A. Link the idea to a reason or cause

☐ B. List unrelated facts

☐ C. Only draw a diagram

☐ D. Write the shortest possible answer

8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

SUCCESS CRITERION 1

Prove that you can: How to evaluate $f(a)$ for numerical and algebraic inputs

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: The meaning of the difference quotient

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: How to interpret function notation in real-world contexts

BAND 5 4 MARKS

One thing I still need help with: