

Technical English Examination

Student's Name:

Group N:

PART I: READING COMPREHENSION (8 points)

Read carefully the following paragraph and answer the questions:

Calculus is a branch of mathematics that studies continuous change.

It was independently developed by Isaac Newton and Gottfried Wilhelm Leibniz in the late 17th century. The two main branches of calculus are differential calculus and integral calculus. Differential calculus concerns instantaneous rates of change and slopes of curves, while integral calculus concerns accumulation of quantities and areas under curves. These two branches are related to each other by the fundamental theorem of calculus, and they form the foundation for much of modern science and engineering.

a) Who developed calculus independently?

Answer: Isaac Newton and Gottfried Wilhelm Leibniz - - - - - (2 points)

b) What are the two main branches of calculus?

Answer: Differential calculus and integral calculus - - - - - (2 points)

c) What does integral calculus concern?

Answer: Accumulation of quantities and areas under curves - - - - - (2 points)

d) What connects the two branches of calculus?

Answer: The fundamental theorem of calculus - - - - - (2 points)

PART II: GRAMMAR AND VOCABULARY (12 points)

Section A: Present Tenses (8 points)

1. Choose the correct form of each verb of the following sentences:

- a) She usually solves mathematical equations. (1 point)**
- b) They are working on a new theorem right now. (1 point)**
- c) Water boils at 100 degrees Celsius. (1 point)**
- d) I don't understand this proof at the moment.(1 point)**

2. Complete with Present Simple or Present Continuous (Progressive):

- a) Mathematicians often publish their research in journals. (1 point)**
- b) Look! The professor is explaining the formula. (1 point)**
- c) We are studying calculus this semester. (1 point)**
- d) He teaches linear algebra every Tuesday. (1 point)**

Section B: Technical Vocabulary (4 points)

3. Match each of the following mathematical terms with its corresponding definition:

- | | |
|----------------------|--|
| a) Derivative | 1. Area under a curve |
| b) Theorem | 2. Rate of change of a function |
| c) Axiom | 3. Statement accepted without proof |
| d) Integral | 4. Statement that has been proven |

a) → 2

b) → 4

c) → 3

d) → 1

GOOD LUCK.