



Sino Bright School Chongqing

Monthly Exam, 2024-2025 T2

Subject: Further Math

Date: May 2025

Time: 60 Minutes

Teacher: Shi Feng

IMPORTANT: Read together before beginning the exam.

Students must complete the assessments to the best of their ability. Any students found cheating during an exam will be given a zero and referred to the Principal for further disciplinary measures. Cheating is a serious offense.

"Cheating" may include any of the following:

- Having course papers, notes, unapproved data sheets or other course-related materials in the exam room without the express permission of the subject class teacher in charge of the exam.
- Using or even having a cellphone or other electronic device in the exam room without the express permission of the subject class teacher in charge of the exam.
- Attempting to communicate, either verbally or non-verbally with other students during the exam.
- Having exam-related materials prior to the writing of the exam.

Mark Breakdown:	Student Name: _____
Part I: Multiple Choice Questions <i>5pts</i> \times 10	
Part II: Short Answer Questions <i>5pts</i> \times 4	
Part III: Long Answer Questions <i>30pts</i>	
Total Score: 100	Score: _____

Special Instructions/Materials Allowed:

- Pen
- Calculator



Part I: Multiple Choice Questions ($5pts \times 10$)

1. If a root of $f(x) = 0$ lies in $[3, 4]$, what is the midpoint after the first iteration of interval bisection?
A) 3.25
B) 3.5
C) 3.75
D) 3.0
2. The formula for the first approximation x_1 using linear interpolation is:
A) $x_1 = a - \frac{f(a)(b-a)}{f(b)-f(a)}$
B) $x_1 = \frac{a+b}{2}$
C) $x_1 = a - \frac{f(a)}{f'(a)}$
D) $x_1 = \frac{f(b)-f(a)}{b-a}$

Part II: Short Answer Questions ($5pts \times 4$)

1. After 3 iterations of interval bisection on $[3, 4]$, the interval length is _____.

Part III: Long Answer Questions ($30pts$)

1. Let $z^6 = 1$.
 - (a) Find all the solutions to the equation.
 - (b) Show each solution on an Argand diagram.



(c) Show that each solution lies on a circle with center $(0, 0)$ and radius 1.