Ju Ching Chu Secondary School (Tuen Mun)

F.5 Mathematics Test (1)

Name : _____( ) Date : _____

Answer ALL the questions :

1) Let $f(x) = x^3 - x - 4$.
設

a) Show that there is a root of f(x) lies between 1 and 2
證明 f(x) 有一根存在於 1 及 2 之間

b) Find , by using Bisection Method, the root in (a) with 2 decimal places.
試用分半方法，求(a)部之根準確至二位小數 (30%)

2) Let $f(x) = 5x \log x - 6$
設

Solve $f(x) = 0$ for $2 \le x \le 3$..
解 當

(Correct your answer to 3 significant figures) (30%)
答案準確至三位有效數字

3) Given an equation $x \sin x - 1 = 0$.
已知 方程

a) Complete the given table for $y = x \sin x - 1$ where $0 \le x \le 3$.
完成 下表 若 而

x	0	0.5	1	1.5	2	2.25	2.5	2.75	3
y	-1	-0.76	-0.16		0.82		0.5		-0.58

Hence find from the table the intervals within which the roots of the equations lie.
由此 求方程之根於何間距

b) Using the method of bisection, estimate the **larger root** in (a)
用分半方法求(a)部較大之根的值
correct to 3 significant figures.
答案準確至三位有效數字 (40%)

END

Numerical Answers

1. (b) 1.80
2. 2.74
3. (a) 0.25, 0.75, 0.05 (b) 2.77