

招生學年度	101	招生類別	碩士班
系所班別	應用數學系碩士班、應用數學系統計碩士班		
科目	專業語文測驗		
注意事項	滿分為 60 分；中英文綜合命題		

請翻譯下列節錄的文章段落，譯文應力求通順達意，字詞與文法正確。

(一，20 分) 英翻中

If we allow the number of terms of a sequence of real numbers to grow indefinitely, we obtain an infinite sequence. Infinite sequences that are convergent are of practical and theoretical interest. Indeed, it is the concept of a convergent sequence that allows us to define the sum of an infinite series (a series that is obtained by letting the number of terms of a series grow indefinitely). In this chapter, we will see how a special type of infinite series called a power series affords us yet another way of representing a function. By representing a function in this manner, we are able to solve problems that we might otherwise not be able to solve.

(二，16 分) 英翻中

Up to now we have dealt primarily with functions involving one independent variable. In this chapter we consider functions involving two or more independent variables. The related notions of limits, continuity, differentiability, and optimization of a function of one variable have their counterparts in the case of a function of several variables, and we will develop these concepts in this chapter. As we will see, many real-life applications of mathematics involve more than one independent variable.

(三，24 分) 中翻英

一個區域上的積分和它邊界上的積分之間的聯繫，是微積分學最基本的內容。先看下列的例子。設  $D=[a,b]$  是  $\mathbb{R}$  中的一個閉區間， $f$  是  $D$  上的連續可微函數，則有微積分學的基本公式

(續次頁)

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$$\int_D df = f(b) - f(a).$$

我們用  $\partial D$  記  $D$  的有向邊界  $\{b\} - \{a\}$ ，則上式右端記成  $\int_{\partial D} f$ 。