

Lesson 13

SOME ACADEMICS

A. READING

Skills Practice

Read the text below and answer the questions that follow.

<p style="text-align: center;">PRINCIPLES OF MATHEMATICAL ANALYSIS (Second Edition) William Ted Martin and E. H. Spanier</p> <p>Copyright © 2000 by McGraw-Hill, Inc. All rights reserved. Printed in the Canada. This book, or parts thereof, may not be reproduced in any form without permission of the publishers. Library of Congress Catalog Card Number 63-21479</p> <p style="text-align: center;">15 16 17 18 19 20 KPKP 7 9 8 7 6 5 4 3 2 1 9 ISBN 07-054231-7</p> <p>Ahlfloors and Martin . Complex Analysis Bellman . Stability Theory of Differential Equations Cheney and Shanks . Advanced Calculuc Coddington . Finite Graphs and Networks Graves . Partial Differential Equations Greenspan . Introduction to Differential Equations Griffin and Spanier . Elementary Theory of Numbers Hildebrand . Principles of Numerical Analysis Lass . Elements of Pure and Applied Mathematics Lass . Vector and Tensor Analysis Martin . Introduction to Mathematical Analysis Martin and Spanier . Introduction to Mathematical Analysis Martin and Spanier . Theories of Mathematical Analysis Newell . Vector Analysis Spanier . Logics for Mathematicians Rudin . Principles of Mathematical Analysis Weinstock . Nonlinear Differential Equations Zemanian . Principles of Mathematical Analysis</p> <p style="text-align: center;">Mc Graw-Hill Book Company Toronto London New York San Francisco</p>	<p style="text-align: center;">Contents</p> <p>Chapter 1 The Real and Complex Number 1</p> <p style="padding-left: 20px;">Introduction 1 Dedekind cuts 3 Real numbers 5 The extended real number system 7 Complex numbers 8 Euclidian spaces 11 Exercises 12</p> <p>Chapter 2 Elements of Set Theory 13</p> <p style="padding-left: 20px;">Finite, countable, and uncountable sets 13 Matric spaces 17 Compact sets 20 Perfect sets 24 Connected sets 26 Exercises 29</p> <p>Chapter 3 Numerical Sequences and Series 32</p> <p style="padding-left: 20px;">Convergent sequences 32 Subsequences 36 Cauchy sequences 40 Upper and lower limits 45 Some special sequences 50 Series 51 Series of nonnegative terms 53 The number e 55 The root and ratio tests 57 Exercises 59</p> <p>Chapter 4 Continuity 63</p> <p style="padding-left: 20px;">The limit of a function 64 Continuous functions 67 Continuity and compactness 72 Discontinuities 75 Monotonic functions 77 Exercises 78</p>
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1. This kind of text can usually be found ... of a book.
 - a. in a front part
 - b. at the end
 - c. in the middle
 - d. on the cover
2. The book is written by ... person/persons.
 - a. 1
 - b. 2
 - c. 3
 - d. 4
3. The book was printed in
 - a. London
 - b. San Francisco
 - c. Canada
 - d. the United States
4. The longest chapter shown is Chapter
 - a. 1
 - b. 2
 - c. 3
 - d. 4

5. The shortest chapter shown is Chapter
 a. 1
 b. 2
 c. 3
 d. 4
6. All chapters have
 a. an introduction
 b. elements
 c. a closing
 d. exercises
7. Altogether, the writers of this book have written ... books.
 a. 1
 b. 2
 c. 3
 d. 4
8. The international book number is
 a. 2000
 b. 63-21479
 c. 15 16 17 18 19 20 KPKP 7 9 8 7 6 5 4
 3 2 1 9
 d. 07-054231-7
9. The book with this title has been written by ... other writers.
 a. 1
 b. 2
 c. 3
 d. 4
10. The subjects of continuity and discontinuity are discussed in Chapter
 a. 1
 b. 2
 c. 3
 d. 4
11. Most probably, the next page would be about
 a. real and complex numbers
 b. theory of sets
 c. sequences and series
 d. continuity and discontinuity
12. The term ***all rights reserved*** means that this book is
 a. fine
 b. not for sale
 c. complete
 d. copy-righted

B. VOCABULARY

Abbreviations and Others

Exercise 1

Match the abbreviations in the left column with their corresponding explanation in the right. Check with your dictionary to help you.

- | | |
|----------|---|
| 1. ISBN | A. international time |
| 2. FAO | B. international book number |
| 3. TKO | C. international organization related to food |
| 4. RSVP | D. flying in space |
| 5. VIP | E. payment at home |
| 6. OPEC | F. radio broadcasting station |
| 7. EEC | G. European organization related to economy |
| 8. UFO | H. a term in boxing or fighting sports |
| 9. BBC | I. international agreement on tariffs and trade |
| 10. SOS | J. dead |
| 11. SAR | K. team to search and help troubled people |
| 12. GATT | L. international oil organization |
| 13. GMT | M. very special persons |
| 14. RIP | N. answer please |
| 15. COD | O. please help us |

Exercise 2

Match the abbreviations in the left column with their corresponding meaning in the right. Check with your dictionary to help you.

1. Inc.	a. that is, namely
2. et. al.	b. compare
3. etc.	c. company
4. a.m.	d. in the morning
5. e.g.	e. against
6. Ltd.	f. please turn over
7. i.e.	g. limited
8. cf.	h. and others
9. pto	i. and so on
10. vs.	j. for example

Exercise 3

Match the symbols in the left column with their corresponding meaning in the right. Check with your dictionary or other reference books.

1. #	a. more than
2. &	b. cut here
3. !	c. information
4. ©	d. watch out
5. ∞	e. sum, total
6. >	f. number
7. ¶	g. and
8. Σ	h. unlimited amount
9. ✂	i. new paragraph
10. ①	j. copy right

C. GRAMMAR

Content Clauses

We often meet this type of sentences:

I understand that I must return the books on time.
She said that she was leaving for the holiday.
We know where he lives.

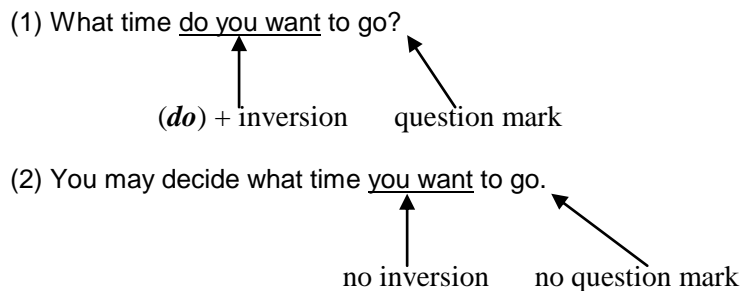
In the grammar of a language, these sentences are called **content clauses** or **noun clauses**. Remember that we have studied **adjective clauses** in the lesson about noun phrases. Sometimes, it is necessary to be able to differentiate between these two constructions.

Adjective clauses are those which function as qualifiers of a head word. A noun clause, however, functions as a noun. It stands by itself as a noun. It does not qualify another noun.

We also have studied about the forms and functions of nouns. Nouns can be subjects, objects, or complements in sentences. They can also come after prepositions. The same thing can happen to noun clauses. Noun clause can be subjects, objects, or complements of sentences. They can also become objects of prepositions. Study the following examples.

Function	Examples
Subject	<u>Who finishes first</u> will get a present. <u>What goes up</u> must come down.
Object	They think <u>that the test is on the next day</u> .
Complement	You may decide <u>what time you want to go</u> . Love is <u>what you can give</u> . It seems <u>what it looks</u> .
Object to preposition	We talked about <u>what it seemed to be the right solution</u> . You can speak to <u>whoever you meet first</u> .

As we have learned earlier, again, this construction is not a question form. It is a sub-ordinate clause. It has the grammar of a positive sentence, not an interrogative sentence. Compare these below?



In the first sentence, (1), we have the rules for forming the question: the use of the auxiliary *do*, the inversion of the subject and predicate, and the question mark at the end of the question. But in the second sentence, (2), we do not have the interrogative rules. It is an ordinary affirmative sentence. Look again:

- (1) → ... what time do you want to go?
- (2) → ... what time you want to go.

Exercise 1

Identify which one is the noun clause.

1. a) I like the book that you bought for me yesterday.
b) They know that you bought a book for me yesterday.
2. a) The director has made an announcement that makes everybody worried.
b) The director has announced what makes everybody worried.
3. a) I can decide wherever I want to go.
b) I made a decision that made everybody surprised.
4. a) The students spoke to the person who was responsible for the event.
b) The students have spoken to who is supposed to be responsible for the event.
5. a) Somebody please tell me about what has happened here?
b) Somebody has told me about the accident that happened here.

Exercise 2

Change these into sentences that have a noun clause like the ones above.

1. The teacher asked: "What do you want?"
2. He said: "None of my friends would want to come with me."
3. The secretary understands his jobs well. (The secretary understands what ...)
4. She promised: "You will get a nice birthday present."
5. The manager explains something the company is going to do. (The manager explains what ...)
6. I asked the shopkeeper: "How much does a second-hand monitor unit cost?"
7. They explained the reason for cancelling the show. (They explained why ...)
8. Somebody at the back shouted: "I don't agree with your opinion."
9. We know the person who will become a good leader.
10. My friend answered: "I came late because I had a flat tire." (My friend answered why ...)