DOCUMENT RESUME

ED 103 089 JC 750 243

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TITLE Oleanna Math Program Smorgasbord (I).
INSTITUTION Skagit Valley Coll., Mount Vernon, Wash.
NOTE 37p.; For a related document, see JC 750 242

EDRS PRICE MF-$0.76 HC-$1.95 PLUS POSTAGE
DESCRIPTORS *Autoinstructional Aids; *College Mathematics; *Course Content; Course Descriptions; Individualized Instruction; *Junior Colleges; Learning Laboratories; Mathematical Enrichment; Programed Instruction; *Secondary School Mathematics; Self Directed Classrooms
IDENTIFIERS *Skagit Valley College

ABSTRACT

This packet is a compilation of short units and quick review assignments used in the Oleanna Math Program at Skagit Valley College (Washington). This math program is taught in an auto-tutorial learning laboratory situation with programmed materials. Each unit of study is contained on a 5" by 8" card, which describes performance objectives, prerequisites, approximate completion time, and necessary texts and other materials. The masters are supplied in this document on 8 1/2" by 11" stock, but copies may be cut to 5" by 8" sheets to meet access and filing needs. These sheets are easily re-arranged for special needs of the reader, whether he is a student, learning laboratory instructor, or counselor. File categories include: mathematical principles, calculating devices, (slide rules, hand calculators, etc.), data processing, applications (nursing, business administration, consumer mathematics, science, metric system), fun, miscellaneous, locally developed modules, and local courses developed from Smorgasbord contents. These sheets may be used to construct personalized courses of study at the rate of 33 clock hours per quarter credit. (DC)

0/1 Introduction

Oleanna Math Program
Smörgåsbord

This packet is a listing of all current "Smorgasbord" units used in the Oleanna Math Program. Although masters are supplied on 8½" X 11" stock, copies may be cut to 5" X 8" sheets to meet access and filing needs.

These sheets are easily re-arranged for special needs of the reader, whether he is a student, open classroom teacher, or counselor.

The units described herein may be used as A-projects in "core" courses; when selecting courses, the student should be told to select projects at the rate of 3 hours per credit. (Quarter credit)

These may also be used to construct personalized courses of study at a rate of 33 clock hours = 1 credit.

0/2

Oleanna Math Program
Smörgåsbord

At the top of each card, a sequence number appears. The first digit (followed by a slash) designates the file section, and are assigned as follows:

0. Introductory notes
1. Mathematical principles treated in the core courses. These modules review principles concisely.
2. Calculating devices
   - .1 Elementary slide rules
   - .2 Standard slide rules
   - .3 Hand calculators
   - .4 Abacuses and sorobans
3. Data processing
4. Applications
   - .1 Nursing
   - .2 Business Administration
   - .3 Consumer mathematics
   - .4 Science
   - .5 Metric System
5. Fun
6. Miscellaneous
7. (Spare)
8. Locally developed modules
9. Local courses developed from Smorgasbord contents

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Oleanna Math Program
Smörgåsbord

Beside the control number, you'll see the module's title, author, and his/her parent institution. Entries without author-credits were originated by me. Users are invited to send me items to add to the collection.

Listed below, the prerequisite is given in terms of the "core" courses. Such modules may be taken as soon as the basic course is completed as an A-project.

The time given is drawn largely from the publisher's experience or, failing that, empirically determined from logs of at least five students.

Under "student materials" we have listed all items the student must purchase.

"Other materials" lists items provided by the publisher or available through Oleanna Math Program distribution.

The comment entry suggests passing test scores or curricular utility.

Oleanna Math Program
Smörgåsbord

Smorgasbord materials were selected on the following criteria:

--Compatability with the general open-classroom concept of the Oleanna Math Program
--High degree of "portability" ie. little or no dependence on on-campus equipment for use: largely print presentations

--Apparent production stability and availability of teachers' guides and standardized testing instruments
--Presence of recognized earmarks of quality
--Cost to the institution and student (approximate; at release time)

Most materials listed herein are commercially available; some supplementary material is, as indicated, produced by the module's author.

Walter A. Coole
Open Classroom
Skagit Valley College
Mt. Vernon, WA 98273

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/1 → Word Problems in Algebra (Basic)

Oleanna Math Program
Smörgåsbord

Performance objective(s): translate from mathematical formulation in first-degree equations to clear English and vice-versa, problems of considerable difficulty.

Prerequisite: Basic Algebra Time: 9 hours

Student materials: Lazar, Nathan. An Introduction to Verbal Problems in Algebra. Encyclopedia Britannica Press. 425 North Michigan Ave. Chicago, Ill. 60611 $4.00

→ 1/2 → Word Problems in Algebra (Intermediate)

Oleanna Math Program
Smörgåsbord

Performance objective(s): translate from English to mathematical formulation, the following kind of problems which may involve quadratic equations: coin problems, mixtures, investments, interest, motion, work, etc.

Prerequisite: Intermediate Algebra, Basic Word Problems in Algebra Time: 20 hours

Student materials: Lazar, Nathan. Verbal Problems in Algebra, Part II. Encyclopedia Britannica Press. 425 North Michigan Ave. Chicago, Ill. 60611 $4.00

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/3 → Number Pairs

Oleanna Math Program
Smörgåsbord

Performance objective(s): perform the following operations on number pairs: naming, adding, forming new sets, subtracting.

Prerequisite: Pre-algebra Time: 10 hours

Student materials: Zoll, Edward J. Number Pairs: A Programmed Introduction. Pitman Publishing Co. East 43rd St. New York, NY 10016 $2.50

→ 1/4 → Logarithms

Oleanna Math Program
Smörgåsbord

Performance objective(s): multiply, divide, raise to a power, and extract roots--using logarithmic calculations.

Prerequisite: Basic algebra Time: 20 hours

Student materials: Federal Electric Co. Logarithms. John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.00

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/5 → Matrix Algebra

Oleanna Math Program
Smörgåsbord

Performance objective(s): use the algebra of matrices in solving problems in various disciplines in which the student has adequate knowledge of the subject matter.

Prerequisite: Intermediate algebra Time: 20 hours

Student materials: Dorf, Richard C. Matrix Algebra. John Wiley & Sons. 605 Third Ave. New York, NY 10016 $6.25

→ 1/6 → Vectors

Oleanna Math Program
Smörgåsbord

Performance objective(s): compute vector sums, differences, products.

Prerequisite: Intermediate algebra Time: 20 hours

Student materials: Carman, Robert A. A Programmed Introduction to Vectors. John Wiley & Sons. 605 Third Ave. New York, NY 10016 $5.25

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Oleanna Math Program
Smörgåsbord

Performance objective(s): represent numbers in Egyptian, Chinese, Japanese, Greek, and Mayan notation.

Prerequisite: none Time: 4 hours

Student materials: Zoll, Edward J. Systems of Numeration. Pitman Publishing Co. 6 East 43rd St. New York, NY 10016 $1.95

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Functions & Relations Time: 8 hours

Student materials: paper and pencil

Other materials: (Filmloop) Schey, Harry M. & Schwartz, Hudah L. Functions: Domain & Range. Harper & Row. 2350 Virginia Ave. Hagerstown, MD 21740 $25.00
"Super 8" film loop projector
Oxford English Dictionary

International Dictionary of Applied Mathematics. D. Van Nostrand Co. 450 West 33rd St. New York, NY 10001 $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully articles on 'function', 'domain', and 'range' in the reference works (iii) review the filmloop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/9 → Uncle Thorbald's Peep Show
#2--Inverses

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Functions & Relations Time: 8 hours

Student materials: paper and pencil.

Other materials: (film loop) Schey, Harry M. & Schwartz, Hudah J.
Functions: Inverses. Harper & Row. 2350 Virginia Ave. Hagers'
MD 21740 $25.00
"Super 8" film loop projector
Oxford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, NY. 10001. $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully articles on 'inverse' in the reference works (iii) review the film loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

→ 1/10 → Uncle Thorbald's Peep Show
#3--Powers of x

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Functions & Relations Time: 8 hours

Student materials: paper and pencil.

Other materials: (Film loop) Schey, Harry M. & Schwartz, Hudah L.
Functions: Powers of x. Harper & Row. 2350 Virginia Ave. Hagerstown,
MD 21740 $25.00
"Super 8" film loop projector
Oxford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, NY. 10001. $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully articles on 'expone' & 'exponent' in the reference works (iii) review the film loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/11 → Uncle Thorbald's Peep Show
#4--Circular and Hyperbolic

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Periodic functions Time: 8 hours

Student materials: paper and pencil.

Other materials: (Filmloop) Schey, Harry M. & Schwartz, Hudah L.
Functions: Circular and Hyperbolic. Harper & Row. 2350 Virginia Ave.
Hagerstown, MD 21740 $25.00
"Super 8" film loop projector
Oxford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, NY. 10001 $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii)study carefully articles on 'sine', 'cosine', & 'trigonometric' in the reference works (iii) review the film-loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

→ 1/12 → Uncle Thorbald's Peep Show
#5--The Derivative

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Analytic Geometry Time: 8 hours

Student materials: paper and pencil

Other materials: (Filmloop) Schey, Harry M. & Schwartz, Hudah L.
Functions: The Derivative. Harper & Row. 2350 Virginia Ave. Hagerstown,
MD 21740 $25.00
"Super 8" film loop projector
Oxford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, NY 10001 $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully articles on 'derivative', 'differ', 'difference' in the reference works (iii) review the film loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

1/13

Uncle Thorbald's Peep Show
#6--Maxima and Minima

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Analytic Geometry

Student materials: paper and pencil.

Other materials: (Film loop) Schey, Harry M. & Schwartz, Hudah L.
Functions: Maxima and Minima. Harper & Row. 2350 Virginia Ave. Hagerstown, MD 21740 $25.00
"Super 8" film loop projector
Oxford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, NY. 10001. $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully articles on 'maximum', 'minimum' in the reference works (iii) review the film loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

1/14

Uncle Thorbald's Peep Show
#7--Points of Inflection

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Differential Calculus Time: 8 hours

Student materials: paper and pencil

Other materials: (Film loop) Schey, Harry M. & Schwartz, Hudah L.
Functions: Points of Inflection. Harper & Row. 2350 Virginia Ave.
Hagerstown Md 21740 $25.00
"Super 8" film loop projector
Osford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, Ny. 10001. $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully articles on 'inflect', and 'inflection' in the reference works (iii) review the film loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

1/15 Uncle Thorbald's Peep Show
#8--The Integral

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Integral Calculus Time: 8 hours

Student materials: paper and pencil

Other materials: (Film loop) Schey, Harry M. & Schwartz, Hudah L.
Functions: The Integral. Harper & Row. 2350 Virginia Ave. Hagerstown,
MD 21740 $25.00
"Super 8" film loop projector
Oxford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, NY. 10001. $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully ar icles on 'integral' and 'integrate' in the reference works (iii) review the film loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

1/16 Uncle Thorbald's Peep Show
#9--The Fundamental Theorem
of Calculus

Oleanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Integral Calculus Time: 8 hours

Student materials: paper and pencil

Other materials: (Film loop) Schey, Harry M. & Schwartz, Hudah L.
Functions: The Fundamental Theorem of Calculus. Harper & Row. 2350
Virginia Ave. Hagerstown, MD 21740 $25.00
"Super 8" film loop projector
Oxford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, Ny. 10001. $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully articles on 'calculate', 'calculus' and 'Fundamental theorem of the integral calculus' in the reference works (iii) review the film loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Uncle Thorbald's Peep Show
#10--The Exponential

Oseanna Math Program
Smörgåsbord

Performance objective(s): unspecified

Prerequisite: Integral calculus Time: 8 hours

Student materials: paper and pencil

Other materials: (Film loop) Schey, Harry M. & Schwartz, Hudah L.
Functions: The Exponential. Harper & Row. 2350 Virginia Ave. Hagerstown, MD 21740 $25.00 .
"Super 8" film loop projector
Oxford English Dictionary.

International Dictionary of Applied Mathematics. D. Van Nostrand Co.
450 West 33rd St. New York, NY 10001. $36.50

Comment: Student is to: (i) view the film, after reading the notes on the package (ii) study carefully articles on 'expone','exponent', and 'exponential' in the reference works (iii) review the film loop and (iv) write a brief paper on the concepts involved, dealing with the principles and their applications.

Oseanna Math Program
Smörgåsbord

Performance objective(s):

Student materials:

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/18 → Quickie Review: Real Numbers

Oleanna Math Program
Smörgåsbord

Performance objective(s): undefined

Prerequisite: Basic Algebra I Time: 14 hours

Student materials: Carico, Charles C. The Real Number System.. Wadsworth Publishing Co. Belmont, CA 94002 $2.00

Comment: Thorough review of the prerequisite course.

→ 1/19 → Quickie Review: Algebraic Equasions

Oleanna Math Program
Smörgåsbord

Performance objective(s): undefined

Prerequisite: Basic Algebra II Time: 14 hours

Student materials: Carico, Charles C. Algebraic Expressions. Wadsworth Pu Publishing Co. Belmont, CA 94002 $2.00

Comment: Thorough review of the prerequisite course.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/20 → Quickie Review: Equations & Inequalities

Oleanna Math Program
Smörgåsbord

Performance objective(s): undefined

Prerequisite: Intermediate Algebra Time: 20 hours

Student materials: Carico, Charles C. Equations & Inequalities in One Variable. Wadsworth Publishing Co. Belmont, CA 94002 $2.00

Comment: Thorough review of the prerequisite course.

→ 1/21 → Quickie Review: Functions & Relations

Oleanna Math Program
Smörgåsbord

Performance objective(s): undefined

Prerequisite: Functions & Relations Time: 15 hours

Student materials: Carico, Charles C. Functions & Relations. Wadsworth Publishing Co. Belmont, CA 94002 $2.00

Comment: Thorough review of the prerequisite course.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/22 → Quickie Review: Exponents & Logarithms

Oleanna Math Program
Smörgåsbord

Performance objective(s): undefined

Prerequisite: Functions & Relations Time: 10 hours

Student materials: Carico, Charles C. Exponential & Logarithms Functions.
Wadsworth Publishing Co. Belmont, CA 94002 $2.00

Comment: Thorough review of the prerequisite course.

→ 1/23 → Quickie Review: Polynomial Functions

Oleanna Math Program
Smörgåsbord

Performance objective(s): undefined

Prerequisite: Functions & Relations Time: 10 hours

Student materials: Carico, Charles C. Complex Numbers: Polynomial Functions.
Wadsworth Publishing Co. Belmont, CA 94002 $2.00

Comment: Thorough review of the prerequisite course.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/24 → Quickie Review: Linear Equations & Inequalities

Oleanna Math Program
Smörgåsbord

Performance objective(s): undefined

Prerequisite: Functions & Relations Time: 13 hours

Student materials: Carico, Charles C. Linear Equations & Inequalities.
Wadsworth Publishing Co. Belmont, CA 94002 $2.00

Comment: Thorough review of the prerequisite course.

→ 1/25 → Quickie Review: Sequences, Series, Probabilities & Statistics

Oleanna Math Program
Smörgåsbord

Performance objective(s): undefined

Prerequisite: Functions & Relations; Probability & Statistics Time: 16 hours

Student materials: Brookes, Philip J. Sequences, Series, Probability & Statistics.
Wadsworth Publishing Co. Belmont, CA 94002 $2.00

Comment: Thorough review of the prerequisite course.

On 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 1/25-28 → (Reserved for remainder of Wadsworth Precalculus Series)

Oleanna Math Program
Smörgåsbord

Performance objective(s):

Student materials:

→ 1/29 → Overview of Symbolic Logic

Oleanna Math Program
Smörgåsbord

Performance objective(s): (i) translate simple sentences from English to one of three logical notational formulations in the sentential calculus (ii) use truth tables to decide validity or invalidity of certain inferences and (iii) translate some simple sentences into the notation of the predicate calculus

Prerequisite: none Time: 10 hours

Student materials: Scha rin, Mortan L. The Language of Logic. College Dept. Random House, Inc. New York, NY 10022 $3.50

Other materials: Coole: Examination for Schagrin's Language of Logic.

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Oleanna Math Program
Smörgåsbord

Performance objective(s): multiplication, division, proportions, ratios, metric conversion, time-speed-distance problems, fractional conversion, simple interest, geometric quantities--to compute these to two significant digits.

Prerequisite: Pre-algebra Time: 3 hours

Student materials: Timesaver Circular Slide Rule. Westab, Inc. St. Joseph Division, 11th St. & Mitchell Ave., St. Joseph, MO 64502 $.50

Coole: A Self-Instruction Minicourse on the Timesaver Circular Slide Rule.

Other materials: Quiz on the Timesaver Circular Slide Rule (two forms)

Oleanna Math Program
Smörgåsbord

Performance objective(s): multiplication, division, squares and square roots--to compute these to two significant digits.

Prerequisite: Basic algebra Time: 10 hours

Student materials: Slide rule with A, B, C, D scales.

Roberts, Eugene: A Programmed Sequence on the Slide Rule. W.H. Freeman and Co. 660 Market St. San Francisco, CA 94104 $2.00

Other materials: Test for Study-Unit: Elementary Straight Slide Rule (two forms)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 2.2/2 → Advanced Slide Rule

Oleanna Math Program
Smörgåsbord

Performance objective(s): products, quotients, squares, square roots, cubes, cube roots, logarithms, trigonometric functional values, ratios, proportions, reciprocals--to compute these to three or four significant digits.

Prerequisite: Periodic Functions Time: 10 hours

Student materials: Scheinberg, Stephen & Rothman, Kenneth: Learning the Slide Rule. Prinale, Weber & Schmidt, Inc. 53 State St. Boston, GA $5.00

Slide rule of minimum 10" and the following scales: A, B, C, D, DL, K, L, S, T

Other materials: Advanced Slide Rule Post-Test

→ 2.2/3 → Super Slide Rule-Algebraic Computation

Oleanna Math Program
Smörgåsbord

Performance objective(s): perform "fundamental" calculations on the slide rule with accuracy and ease.

Prerequisite: Intermediate Algebra Time: 30 hours

Student materials: High quality slide rule with the following scales: A,B, C, D, DL, CI, CF, CIF, RL, R@, LLL, LL@, LL#, L, LLO, LL/0, LL/1, LL/2, LL/3, K, T, S (eg. POST VERSALOG 1460)

Hoffman, L.D. & Ellis, H.B.: The Slide Rule: An Audio-Tutorial Program. Merril Publishing Co. 1300 Alum Creek Rd. Columbus OH 43612 $6.95

Other materials: Hoffman, L.D. & Eliss, H. B.: Tapes to Accompany the Slide Rule, An Audio-Tutorial Program. Merril Publishing Co. 1300 Alum Creek Rd. Columbus, OH 43612 $380.00

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

2.2/4

Super Slide Rule--
Trigonometry

Oleanna Math Program
Smörgåsbord

Performance objective(s): compute trigonometric functional values.

Prerequisite: Periodic Functions Time: 30 hours

Student materials: high quality slide rule with the following scales: A, B, C, D, DL, DI, DF, DIF, RL, R@, LLL, LL@, LL#, L, LLO, LL/O, LL/1, LL/2, LL/3, K, T, S (eg. POST VERSALOG 1460)

Hoffman, L.D. & Ellis, H.B.: The Slide Rule: An Audio-Tutorial Program. Merrill Publishing Co. 1300 Alum Creek Rd Columbus OH 43612 $6.95

Other materials: Hoffman, L.D. & Ellis, H.B.: Tapes to Accompany the Slide Rule, An Audio-Tutorial Program. Merrill Publishing Co. 1300 Alum Creek Rd. Columbus, OH 43612 $380.00

2.2/5

Super Slide Rule--
Calculus I

Oleanna Math Program
Smörgåsbord

Performance objective(s): compute transendental functional values

Prerequisite: Calculus I Time: 30 hours

Student materials: High quality slide rule with the following scales: A, B, C, D, DL, CI, DF, CIF, RL, R@, LLL, LL@, LL#, L, LLO, LL/O, LL/1, LL/2, LL/3, K, T, S (eg POST VERSALOG 1460)

Hoffman, L.D. & Ellis, H.B.: The Slide Rule: An Audio-Tutorial Program. Merril Publishing Co. 1300 Alum Creek Rd. Columbus,OH 43612 $6.95

Other materials: Hoffman, L.D. & Ellis, H.B.: Tapes to Accompany the Slide Rule, An Audio-Tutorial Program. Merrill Publishing Co. 1300 Alum Creek Rd. Columbus, OH 43612 $380.00

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Super Slide Rule--
Calculus II

Oleanna Math Program
Smörgåsbord

Performance objective(s): compute transcendental functional values.

Prerequisite: Calculus II Time: 10 hours

Student materials: High quality slide rule with the following scales: A, B, C, D, DL, CI, DF, CIF, RL, R@, LLL, LL@, LL#, L, LLO, LL/O, LL/1, LL/2, LL/3, K, T, S (eg. POST VERSALOG 1460)

Hoffman, L.D. & Ellis, H.B.: The Slide Rule: An Audio-Tutorial Program. Merrill Publishing Co. 1300 Alum Creek Rd. Columbus, OH 43612 $6.95

Other materials: Hoffman, L.D. & Ellis, H.B.: Tapes to Accompany The Slide Rule, An Audio-Tutorial Program. Merrill Publishing Co. 1300 Alum Creek Rd. Columbus, OH 43612 $380.00

Pocket Calculators

Oleanna Math Program
Smörgåsbord

Performance objective(s): to perform standard mathematical operations, using the SR-10 to considerable extent, with ease.

Prerequisite: Periodic Functions Time: 10 hours

Student materials: paper and pencil (student may purchase any of the materials below)

Other materials: SR-10 Electronic Slide Rule Calculator, Texas Instruments Inc. P. O. Box 5012, Dallas, Texas 75222. $75.00, with users manual

Burlington, Richard: Handbook of Mathematical Tables & Formulas. McGraw-Hill Book Co. 1221 Avenue of the Americas, New York, NY 10020. $6.50

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 3/1 → Computer Mathematics-
Binary Numbers

Oleanna Math Program
Smörgåsbord

Performance objective(s): convert from decimal to binary notation, add, subtract, and multiply binary numbers.

Prerequisite: Basic Algebra I Time: 4 hours

Student materials: Ashly, Ruth: Background Math for a Computer World.
John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00
(Chapter 1)

→ 3/2 → Computer Mathematics-
Octal Numbers

Oleanna Math Program
Smörgåsbord

Performance objective(s): translate between octal & decimal notation, add, and subtract octal numbers.

Prerequisite: Basic Algebra I Time: 4 hours

Student materials: Ashly, Ruth: Background Math for a Computer World.
John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00
(Chapter 2)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 3/3 → Computer Mathematics-
Logic

Oleanna Math Program
Smörgåsbord

Performance objective(s): compute strict logical implications, using truth tables.

Prerequisite: Basic Algebra I Time: 4 hours

Student materials: Ashly, Ruth: Background Math for a Computer World.
John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00
(Chapter 3)

→ 3/4 → Computer Mathematics-
Flow Charts

Oleanna Math Program
Smörgåsbord

Performance objective(s): construct flow chart representing fairly complex operations

Prerequisite: Basic Algebra I Time: 4 hours

Student materials: Ashly, Ruth: Background Math for a Computer World.
John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00
(Chapter 4)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 3/5 → Computer Mathematics-
Notation

Oleanna Math Program
Smörgåsbord

Performance objective(s): represent numbers in E notation and replecate floating-point calculation

Prerequisite: Basic Algebra II Time: 4 hours

Student materials: Ashly, Ruth: Background Math for a Computer World. John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00 (Chapter 5)

→ 3/6 → Computer Mathematics-
Interest

Oleanna Math Program
Smörgåsbord

Performance objective(s): compute interest

Prerequisite: Intermediate Algebra Time: 3 hours

Student materials: Ashly, Ruth: Background Math for a Computer World. John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00 (Chapter 6)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 3/7 → Computer Mathematics-
Sequenies & Series

Oleanna Math Program
Smörgåsbord

Performance objective(s): construct sequenies, given a general term; decide whether a series diverses, converses, approaches a limit.

Prerequisite: Intermediate Algebra Time: 3 hours

Student materials: Ashly, Ruth: Background Math for a Computer World.
John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00
(Chapter 7)

→ 3/8 → Computer Mathematics-
Probability

Oleanna Math Program
Smörgåsbord

Performance objective(s): calculate probabilities of dependent & independent events

Prerequisite: Intermediate Algebra Time: 3 hours

Student materials: Ashly, Ruth: Background Math for a Computer World.
John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00
(Chapter 8)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

3/9

Computer Mathematics-
Statistics

Oleanna Math Program
Smörgåsbord

Performance objective(s): compute means, moles, medians, and standard deviations of data-collections

Prerequisite: Intermediate Algebra Time: 3 hours

Student materials: Ashly, Ruth: Backgroung Math for a Computer World. John Wiley & Sons. 650 Third Ave. New York, NY 10016 $4.00 (Chapter 9)

3/10

Computer Mathematics-
Equations

Oleanna Math Program
Smörgåsbord

Performance objective(s): solve linear equations in two variables

Prerequisite: Intermediate Algebra Time: 1 hour

Student materials: Ashly, Ruth: Background Math for a Computer World. John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00 (Chapter 10)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 3/11 → Computer Mathematics-
Matrices

Oleanna Math Program
Smörgåsbord

Performance objective(s): perform fundamental operations on matrices.

Prerequisite: Intermediate Algebra Time: 4 hours

Student materials: Ashly, Ruth: Background Math for a Computer World. John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00 (Chapter 11)

→ 3/12 → Computer Mathematics-
Game Theory

Oleanna Math Program
Smörgåsbord

Performance objective(s): decide when simple games are "determined" and "fair".

Prerequisite: Intermediate Algebra Time: 4 hours

Student materials: Ashly, Ruth: Background Math for a Computer World. John Wiley & Sons. 605 Third Ave. New York, NY 10016 $4.00 (Chapter 12)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 3/13 → Introduction to Data Processing--
The Data Processing Cycle

Oleanna Math Program
Smörgåsbord

Performance objective(s): list the main steps in the data processing cycle; describe what happens at each step of the cycle.

Prerequisite: 3/1-3/12--Computer Mathematics
Time: 2 hours

Student materials: Harris, Martin L. Introduction to Data Processing.
John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95
(Chapter 1)

→ 3/14 → Introduction to Data Processing--
The Punched Card

Oleanna Math Program
Smörgåsbord

Performance objective(s): describe IBM Cards and machine operations

Prerequisite: 3/1-3/12--Computer Mathematics
Time: 4 hours

Student materials: Harris, Martin L. Introduction to Data Processing.
John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95
(Chapter 2)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 3/15 → Introduction to Data Processing-
Overview of Computers

Oleanna Math Program
Smörgåsbord

Performance objective(s): describe how data is organised and processed; and what part humans play in operations

Prerequisite: 3/1-3/12--Computer Mathematics
Time: 3 hours

Student materials: Harris, Martin L. Introduction to Data Processing. John Wiley & Sons, Inc. 605 Third Ave. New York, NY. 10016 $3.95 (Chapter 3)

→ 3/16 → Introduction to Data Processing--
Data Storage

Oleanna Math Program
Smörgåsbord

Performance objective(s): tell how data is represented in computers

Prerequisite: 3/1-3/12--Computer Mathematics
Time: 4 hours

Student materials: Harris, Martin L. Introduction to Data Processing. John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95 (Chapter 4)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Oleanna Math Program
Smörgåsbord

→ 3/17 → Introduction to Data Processing--Programs

Performance objective(s): account, in general terms, how computer programs are developed

Prerequisite: 3/1-3/12--Computer Mathematics
Time: 2 hours

Student materials: Harris, Martin L. Introduction to Data Processing. John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95 (Chapter 5)

Oleanna Math Program
Smörgåsbord

→ 3/18 → Introduction to Data Processing--Flow Charts

Performance objective(s): draw and interpret simple flow charts

Prerequisite: 3/1-3/12--Computer Mathematics
Time: 6 hours

Student materials: Harris, Martin L. Introduction to Data Processing. John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95 (Chapter 6)

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

→ 3/19 → Introduction to Data Processing--
BASIC

Oleanna Math Program
Smörgåsbord

Performance objective(s): interpret simple BASIC statements

Prerequisite: 3/1-3/12--Computer Mathematics
Time: 4 hours

tudent materials: Harris, Martin 1. Introduction to Data Processing.
John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95
(Chapter 7)

→ 3/20 → Introduction to Data Processing--
Software

Oleanna Math Program
Smörgåsbord

Performance objective(s): tell what program "software" accomplishes

Prerequisite: 3/1-3/12--Computer Mathematics
Time: 2 hours

Student materials: Harris, Marvin L. Introduction to Data Processing.
John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95
(Chapter 8)

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or 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract Catalog, published by Coole & Reitan.

3/21 Introduction to Data Processing--Systems

Oleanna Math Program
Smörgåsbord

Performance objective(s): describe system-analysis work in general terms

Prerequisite: 3/1-3/12--Computer Mathematics

Time: 1 hour

Student materials: Harris, Martin L. Introduction to Data Processing. John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95 (Chapter 9)

Oleanna Math Program
Smörgåsbord

Performance objective(s):

Student materials:

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Oleanna Math Program
Smörgåsbord

Performance objective(s): construct a Program Evaluation and Review Technique chart, accounting for moderately difficult management decision-making.

Prerequisite: Intermediate Algebra Time: 15 hours

Student materials: Federal Electric Corporation: Programmed Introduction to PERT. John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $7.00

Oleanna Math Program
Smörgåsbord

Performance objective(s): use arithmetic techniques to solve problems in the following areas: income, property, sales taxes, insurance, credit, lending, vorrowing, payroll, depreciation merchandising.

Prerequisite: Pre-Algebra Time: 18 hours

Student materials: Locke, Flora M: Business Mathematics. John Wiley & Sons, Inc. 605 Third Ave. New York, NY 10016 $3.95

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Oleanna Math Program
Smörgåsbord

Performance objective(s): perform elementary statistical information and use it for business purposes.

Prerequisite: Basic Algebra Time: 14 hours

Student materials: Koosis, Donald J.: Business Statistics. John Wiley & Sons. Inc. 605 Third Ave. New York, NY 100-6 $2.95

Oleanna Math Program
Smörgåsbord

Performance objective(s): meet normal upper-division requirements for business statistics.

Prerequisite: Probability & Statistics Time: 45 hours

Student materials: Kazmier, Leonard J.: Statistical Analysis for Business and Economics. McGraw-Hill Book Co. Princeton Road, Hightstown, NJ 08520 $1.50

Other materials: Instructor's Manual to Accompany Statistical Analysis for Business And Economics. McGraw-Hill Book Co. Princeton Road, Highstown, NJ 08520

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

4.2/5 Math Preliminary to Economics

Oleanna Math Program
Smörgåsbord

Performance objective(s): solve algebraically, problems in macroeconomics.

Prerequisite: Intermediate Algebra Time: 15 hours

Student materials: Havrilesky, Thomas M. Money in the Economy. John Wiley & Sons. 605 Third Ave. New York, NY 10016 $2.95

Oleanna Math Program
Smörgåsbord

Performance objective(s):

Student materials:

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Oleanna Math Program
Smörgåsbord

Performance objective(s): "Speak the language" of the metric system; perform most conversions between the English and the metric systems.

Prerequisite: Pre-algebra Time: 15 hours

Student materials:

Oleanna Math Program
Smörgåsbord

Performance objective(s):

Student materials:

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.

Oleanna Math Program
Smörgåsbord

Performance objective(s): make theoretical predictions about accident-prone days and periodic shifts in morale.

Prerequisite: Basic Algebra Time: 10 hours

Student materials: Red, blue, and green colored pencils.
Biorythm Cyclegraf. Biorythm Computers, Inc. 298 Fifth Ave. New York, NY 10001 $6.00

Other materials: Coole: Biological Cycles: An Audiotutorial Kit.

Comment: Lesson 1--after reading Cyclegraf materials, plot 6 months' predictions. Lessons 2 and 3 are in the audiotutorial kit.

Oleanna Math Program
Smörgåsbord

Performance objective(s):

Student materials:

For 5" X 8" format, cut along dotted lines. For current updates consult: Greenbook Abstract & Catalog, published by Coole & Reitan.