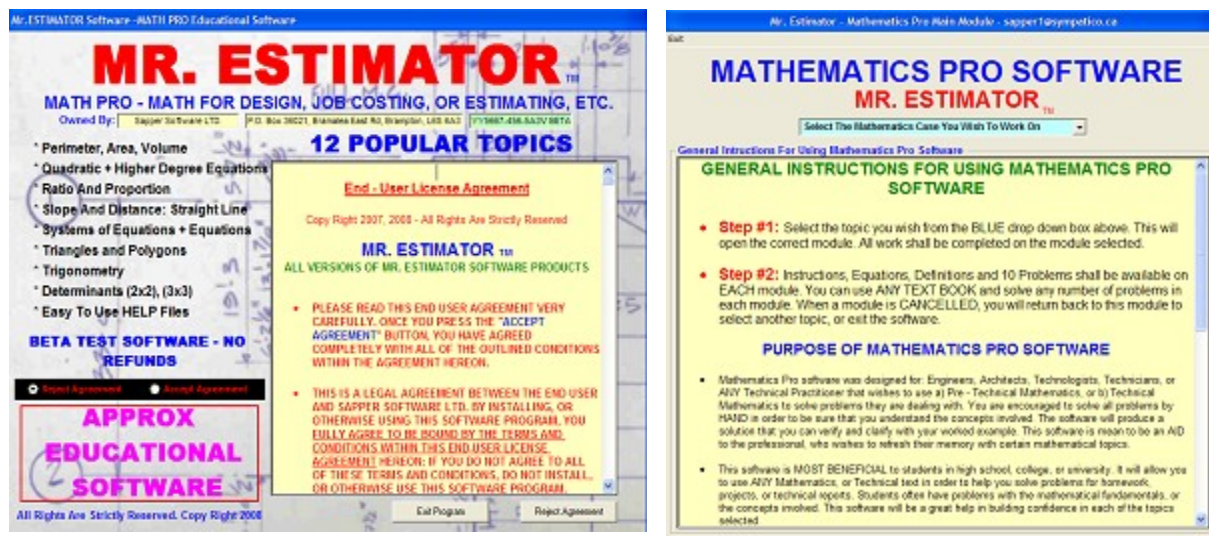


MATH PRO SOFTWARE

Engineers, Architects, Technologists, Technicians, Managers, Students
PRE – TECHNICAL AND TECHNICAL MATHEMATICS TOPICS

- The software opens up with “easy” instructions. The learning curve for this software is very short and can be mastered in **most cases** in UNDER AN HOUR.



- This software is designed for any technical individual to brush up on Pre – Technical, or Technical Math topics. These topics can be used to aid in design, job costing, or estimation projects. Students can benefit greatly from this software for the following reasons:

20 Reasons Why This Product Will “Add Value” to your learning experience.

- Easy to use. Simple interface.
- Very short learning curve.
- Easy instructions. No training courses are required.
- Very low cost per module.
- No spreadsheets and no 3rd party software required.
- Calculates ALL the values for you.
- Improve your “understanding” immediately with one use.
- Professional Version can be “customized” with ADDED modules.
- Very **AFFORDABLE** price compared to software using spreadsheets.
- Brush up on pre-technical and technical math concepts.
- Allows for the use with ANY textbook.
- Solve **AS MANY** problems as you want, then CHECK by hand.
- Twelve common mathematics topics covered in most courses and texts.
- One hundred and fifteen SOLVED problems.
- Easy definitions with each module.

MR. ESTIMATOR® SOFTWARE

- Equations are given in each module.
- Step by step instructions in each module.
- Complete step by step solutions for solved problems.
- Calculation ERROR is minimized.
- Fast solutions to problems to aid in understanding the concept.

If you have any questions, please do not hesitate to ask. See SapperSoftware.com
MATH PRO, MR.ESTIMATOR®, software below.

12 Common Topics To Most Courses And Texts.

- Perimeter, Area and Volume of SEVEN shapes.
- Pyramids, Frustums and Cones.
- Two Linear Equations in Two Unknowns.
- Three Linear Equations in Three Unknowns.
- Four Linear Equations in Four Unknowns.
- Binomial, Decimal and Hexadecimal Numbers.
- Percent/Ratio Solver.
- Direct and Inverse Proportional Problems.
- Right Triangle, Trig Functions and Pythagorean Theorem.
- Quadratic Equation Solver.
- Oblique Triangles – Sine and Cosine Laws. Eighteen Possible Cases.
- Straight Line, Slope and Y – Intercept.
- BUSINESS MATH MODULES are being added for upgrade.

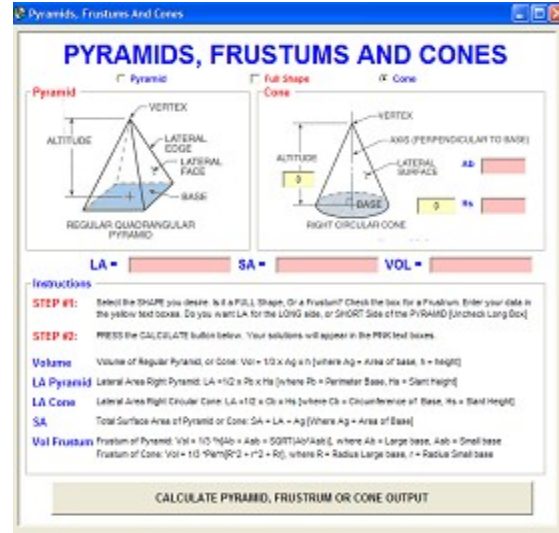
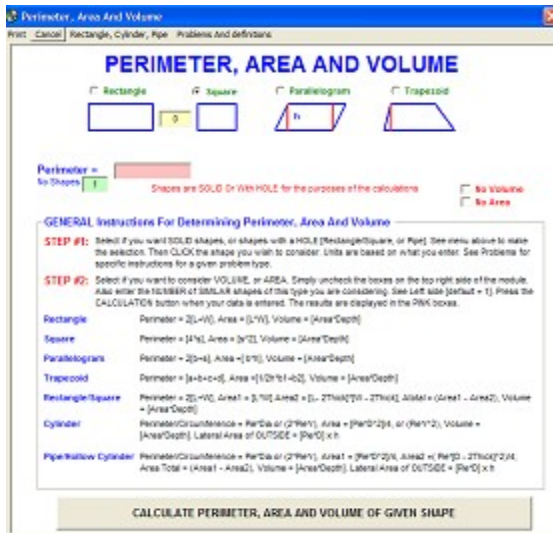
Benefits Particularly For Students Experiencing “Math Anxiety”.

- Fast results. Don't have to concentrate on calculator keys.
 - Don't have to worry about order of operation.
 - Don't have to worry about powers, or roots, or angles.
- The above concerns are **required to master the concepts of mathematics**, however when a student has math anxiety, or is not able to use the functions on a scientific calculator, then this individual will **NOT BE ABLE** to find the solution to the problem.
 - **MATH PRO** gives the student the ability to “see” the various parts of the solution so that they can feel confident when in the “process” of mastering the fundamental concepts. This software is designed to aid the student in **an exceptional learning experience, guiding them to the success required to master the mathematical techniques** to become professionals in their field of expertise.

MODULES ILLUSTRATING INTERFACES FOR MATH PRO

Modules Are Displayed As They Appear In The Software @ 40% Their Actual Size

PERIMETER, AREA AND VOLUME, PYRAMIDS, FRUSTUMS AND CONES



Solve Problems Like The Following With These Two Modules:

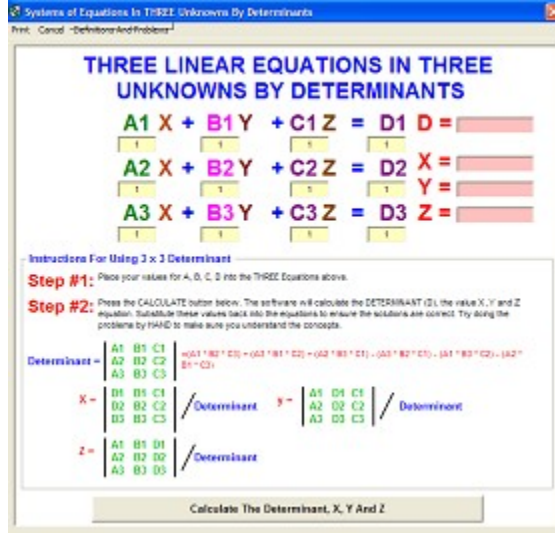
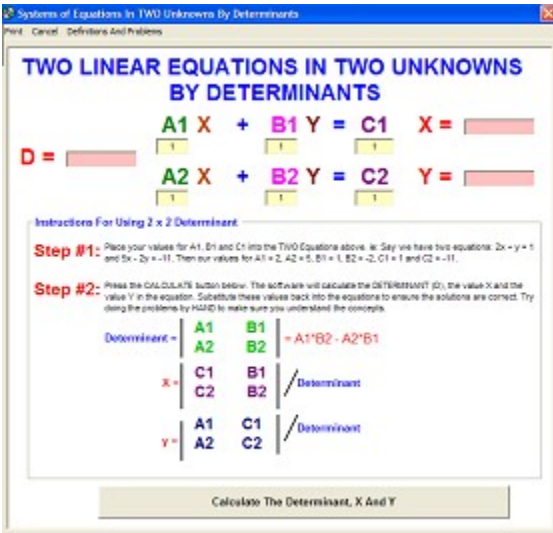
- Calculate the perimeter, area and volume for a) rectangle, b) square, c) parallelogram, d) trapezoid, e) rectangle, or square with a hole in it, f) cylinder and g) pipe.
- Calculate: a) lateral area, b) surface area, c) volume, d) area of large and small bases, and e) slant height for pyramids, frustums and cones.

A Typical Problem In Each Module Might Be As Follows:

This is only one problem type for the module in question

- The cross – section of a concrete retaining wall, to be used in your backyard project, is 16 feet high. The base dimension is 12 feet and the top dimension is 5 feet. If the wall is 22 feet long, what volume of concrete is required to be ordered? [knowing that $1 \text{ Yd}^3 = 27 \text{ Ft}^3$].
- A “Big Foot” concrete footing to be used on a deck project is formed in the basic shape of a frustum. The height of the “Big Foot” is 500 mm. The part of the footing on the ground [the large diameter] is 400 mm. The other end is 250 mm. If we are using 6 of these in our project, what volume of concrete would be required?

TWO LINEAR EQUATIONS AND TWO UNKNOWN AND THREE LINEAR EQUATIONS AND THREE UNKNOWN



Solve Problems Like The Following With These Two Modules:

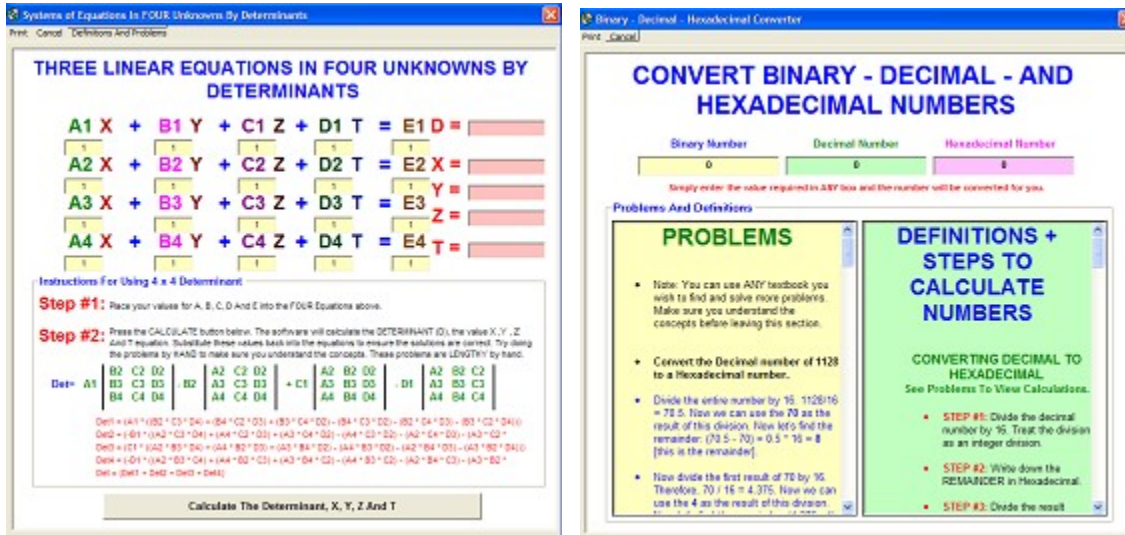
- Calculate systems of equations based on two and three equations. These systems can be “experimental” as in laboratory problem assignments, or any engineering, or technology lab scenario.
- Calculate systems of equations found in any text book in your technical library.

A Typical Problem In Each Module Might Be As Follows:

This is only one problem type for the module in question

- By applying Kirchhoff's law to an experimental circuit in our lab project we find the following equations: a) $7i_1 + 9i_2 = 12$ and b) $5i_1 - 2i_2 = 1$. If i_1 and i_2 represent the current, what are these values?
- A pulley system gives the following 3 equations when tested in a lab setting: a) $x_1 + x_2 = 0$, b) $2x_1 = 20 - T$ and c) $5x_2 = 50 - T$. If x_1 and x_2 represent acceleration and T represents the tension in the cable, what are these values?
- One use of these modules can be for laboratory projects where a Technical Report is required. Using this software can help you solve problems quickly and aid in your “understanding” of the project in order to utilize the theory to explain your found solutions.

FOUR LINEAR EQUATIONS AND FOUR UNKNOWN AND BINOMIAL, DECIMALS AND HEXADECIMAL NUMBERS



Solve Problems Like The Following With These Two Modules:

- Calculate systems of equations based on FOUR equations. These systems can be “experimental” as in laboratory problem assignments, or any engineering, or technology lab scenario.
- Convert different types of numbers commonly used in electronics, or software applications.

A Typical Problem In Each Module Might Be As Follows:

This is only one problem type for the module in question

- An experimental situation is developed in the lab to be used as the topic of a Technical Report, or Thesis, as a requirement of graduation. The following equations are developed: a) $3x + 2y - 4z + 2t = 3$, b) $5x - 3y - 5z + 6t = 8$, c) $2x - y + 3z - 2t = 1$ and d) $-2x + 3y + 2z - 3t = -2$. Solve for the unknowns in this system.
- Convert the binary number 11101 to a decimal number.
- Note that one Module here illustrates that SOLVED problems are on the left side and Definitions and Steps are given on the right side. Each Module is set up in the same way, so that the software is EASY to use. Also, the problems are visible “at a glance”, while the data can be placed and verified in the Module.

PERCENT/RATIO SOLVER, DIRECT AND INDIRECT PROPORTIONS

Solve Problems Like The Following With These Two Modules:

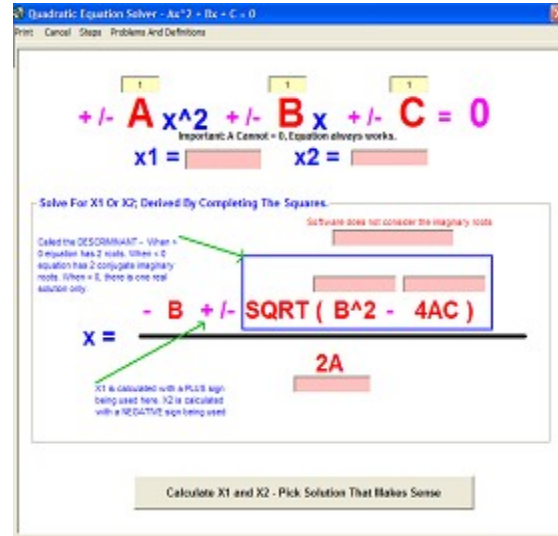
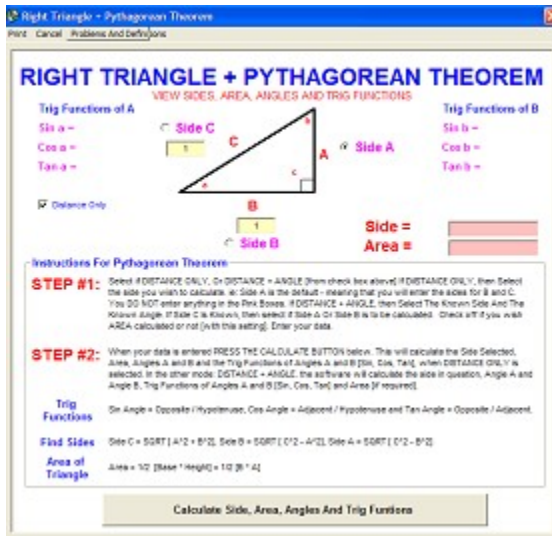
- Calculate any part of a Percent/Ratio problem.
- Calculate direct and indirect proportional problems. Compare problems with ANY TEXT found in your technical library to help you further understand the concepts.

A Typical Problem In Each Module Might Be As Follows:

This is only one problem type for the module in question

- The horsepower of an engine is increased by 9.8% after the engine is re - bored. Find the increase in the horsepower if the engine is rated at 320 horsepower before it is re - bored.
- According to Boyle's Law, the volume of a given quantity of gas at a constant temperature is inversely proportional to the pressure of the gas. If the volume of a certain gas is 850 m³ when the pressure is 20 KPa, what would be the volume when the pressure is 45 KPa?
- Some authors of texts tend to use different “symbols” in the equations and when the theory is explained. This software, uses mainly “generic” symbols. Students can now CHECK OUT other texts in their technical library in order to solve the problems there. They can now IDENTIFY more readily what a given symbol may mean, when used in a particular question. The student can compare solutions in the back of the text to the solution in the software and the SOLVED step by step problems.
- Notice the simplicity of the interfaces. These can be printed off on a piece of paper – where the student can now perform a hand calculation under this print to verify the concepts used. Each part of a particular problem can be solved “easily”. Students can solve ANY NUMBER of problems and even make up problems to further develop and understand the theory involved. Note: The SOLVED problems and definitions are not printable to protect the copyright within the software. Each end user with a copy of the software will have a) access to these documents, and b) ability to use these problems in the software “at a glance” while scrolling through the text. This will especially “encourage” students to complete the HAND calculations themselves in order to fully understand the concepts presented.

RIGHT TRIANGLE, TRIGONOMETRIC FUNCTIONS AND PYTHAGOREAN THEOREM AND QUADRATIC EQUATION SOLVER



Solve Problems Like The Following With These Two Modules:

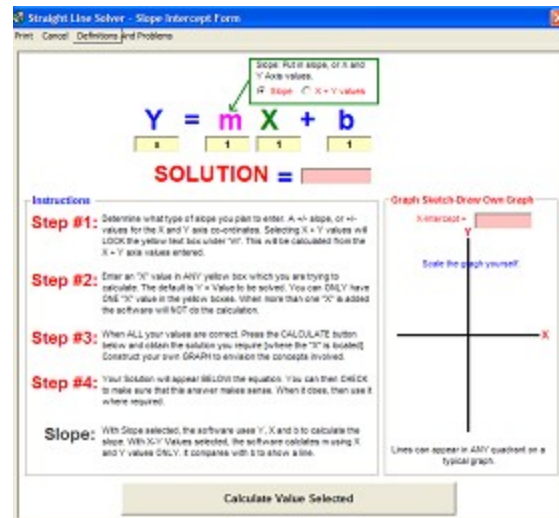
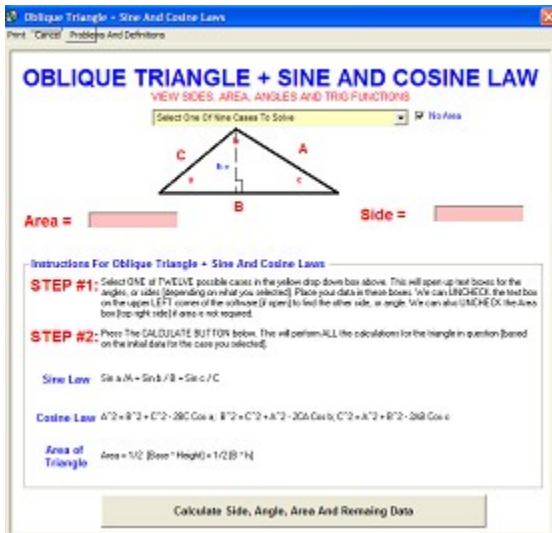
- Calculate any part of a Right Angle Triangle problem. Also obtain Sine, Cosine, and Tangent functions.
- Calculate “x” involved in a Quadratic Equation. The software displays the TWO roots [where applicable]. Compare problems with ANY TEXT found in your technical library to help you further understand the concepts.

A Typical Problem In Each Module Might Be As Follows:

This is only one problem type for the module in question

- Rafters 20 feet long are used on an equally pitched roof. The span of the roof is 30 feet. What is the approximate rise of the roof?
- The interior of a cubical box is lined with insulating material 0.5 mm thick. Find the original dimension if the volume is thereby decreased by 271 mm³?
- Students can solve ANY problem that forms a Quadratic equation. Once the equation is developed by the student, the software can be used to establish the roots. The unreasonable root can then be discarded by the student [should one of the roots not make sense].

OBLIQUE TRIANGLES: SINE AND COSINE LAW AND STRAIGHT LINE: SLOPE AND Y - INTERCEPT



Solve Problems Like The Following With These Two Modules:

- Calculate any part of an Oblique Triangle using Sine Law and/or Cosine Law.
- Calculate “Y” for a Straight Line, or the Slope and Y - Intercept. Compare problems with ANY TEXT found in your technical library to help you further understand the concepts.

A Typical Problem In Each Module Might Be As Follows:

This is only one problem type for the module in question

- A crank mechanism can be illustrated by an oblique triangle OAB. Arm OA = 30 mm long, rotating counterclockwise about O and a connecting rod AB = 60 mm. B moves along the horizontal line OB. What is the distance OB when OA has rotated by 1/8 revolution [Hint: A complete revolution = 360 degrees].
- Find the slope and Y intercept of the straight line whose equation is $2y + 4x - 5 = 0$.
- As you can see the 12 Modules within this software cover the “main” topics in a Pre – Technical math text, or course and some of the topics in Technical math course. This software is designed to “aid” the Engineer, Architect, Technologist, Technician, Manager, or Student who wishes to **BRUSH UP** on the basics of the theory involved in the topic in question.

A LICENCED PROFESSIONAL MAY BE REQUIRED

- It is **IMPORTANT TO UNDERSTAND** that mathematics is the language of engineering and technology. It is generally used to PROVE that a design is SAFE and will work properly over the design life of that particular project. If you are using ANY of the mathematical topics, or cases within this software to AID you in a “real life” project, then you may require a Licensed Professional to verify, clarify, and APPROVE of that calculation and its use in the design. This will be determined by your local codes, laws, or

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statutes. Anyone NOT understanding the equation(s) used, or the fundamental concepts involved with theory SHOULD NOT use them for CONSTRUCTION, or in ANY situation that may affect the safety of a third party.

NO REFUNDS ON OPENED BETA SOFTWARE – FINAL SALE

ALL Software Comes With a 30 – Day Limited E-Mail Support Period – Starting from the date of purchase.