Pre-Algebra Help

Click on the contents button for more information.

Having Trouble?

If you are getting an **Invalid Property Value** message this is usually due to the fact that this program tried but could not install the font resource (needed for this program) into the Windows 95 font table.   Why?   Good question.   Some programs (especially font managers) take over control of the font table and don't allow installation of fonts unless they are installed manually or through the font manager.   Is this a nice thing to do?   We don't think so and we don't believe Microsoft does either.   There is a fix though.   To run our program correctly you will have to manually install the font(s) by using the **Install New Font** option in the **File Menu** of the Windows 95 **Font Folder.**   All of our true type fonts (usually just one) are located in our program's directory.   **Make sure** that you **remove** the **check mark** from the **Copy fonts to Windows folder (check box)** before you click the **OK** button.   If your still having trouble call Technical Support.

Selecting Chapters and Sections

To select a chapter or section double click with the mouse or use the up and down arrow keys to highlight the topic and then press the ENTER key.   This brings up the Problems window.

Click the part of the Problems window that you want to know more about.

Section 2 Adding Whole Numbers   ☒

Example   Worked   Details   Calculator   Print   Score   Help   Exit

[example] [worked] [details] [calculator] [print] [100%] [Exit]   **Total Problems 23**

Instructions
Please Add the following Whole Numbers.

PROBLEM 2
               Add   5
                                  + 0

A)   5   B)   6   C)   0   D)   None

| A | B | C | D | PgUp-Previous   PgDn-Next

Select **A**, **B**, **C** or **D** as your choice for the answer to the problem.   A right or wrong response will then appear.

Select   PageUp to view the previous problem and PageDown to see the next problem.

This is the display area for all problems.

Instructions for all problems of this type.

The Example window displays an example problem similar to the current one you are viewing in the Problems window.

The Worked window displays the current problem worked out step-by-step.

The Details window describes in depth the material needed to successfully complete the problem.
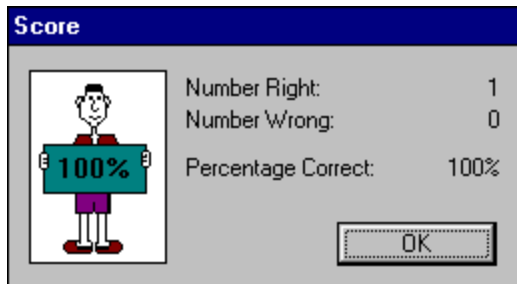
Closes the window.

Printing Problems

Print Problem(s)

- ⦿ All Problems
- ◯ This Problem
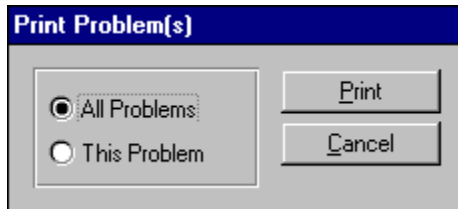
[Print]
[Cancel]

Clicking this option allows you to print **one** or **all** of the problems in this section.

Your Score

Clicking on this option will display the number of correct and incorrect answers that you have chosen in this section.   If you answered a problem incorrectly and went back and changed it to the correct answer, it would no longer be counted as incorrect.   Your score is not available in a review section.

The Resume Feature

By clicking this option the program will automatically return you to the chapter, section and problem that you were working on before you last exited the program.   All your previous answers for that section are also restored.

Playing Sounds

To play the sounds that come with this program, you'll need to click over the **<u>S</u>ound** option located on the main menu bar.   You can either enable or disable the programs ability to play sounds by clicking over the appropriate command.   The current option selected will have a check mark in front of it and the settings are automatically saved when they are changed. To properly hear the sound (.WAV) files you'll need to have a sound driver installed as well as a sound card that gives you sound capabilities.   Consult your Windows or sound card documentation for further assistance.

Many thanks to **Elizabeth Lassiter** for using her voice in this program and mega thanks to **Beachware** for letting us use sound (.WAV) files from their Shareware Breakthrough CD.

Entering Your Name
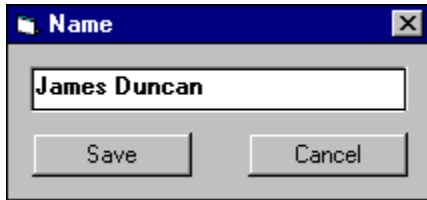
Clicking this option allows you to enter and save your name.   When you send problems to the printer the name saved here will be displayed at the top of the printout.

Review Sections

Reviews are a compilation of all the sections in the chapter.   No examples, worked, or details text can be displayed in a review section; however, your score and right or wrong responses are available.

Calculator Help
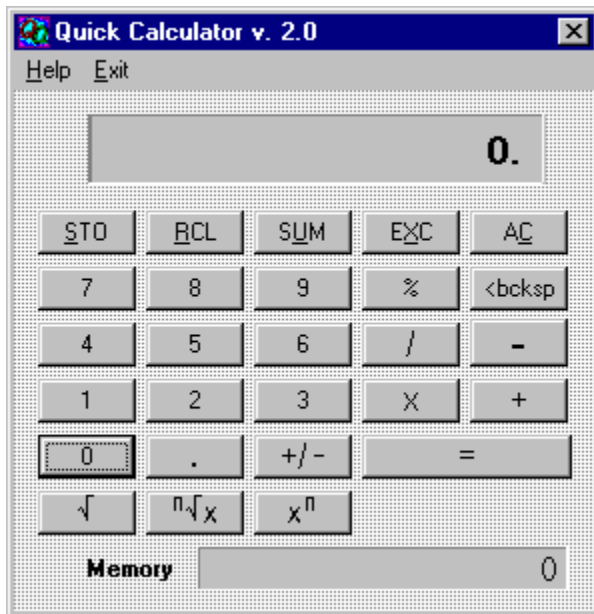
Click the part of the Calculator window that you want to know more about.

Clicking on this key causes the displayed value to be stored in the memory register replacing any value already in that register.

Clicking on this key copies the contents of the memory register to the displayed value window.   The value in the memory register now becomes the displayed   value.

Clicking on this key sums the displayed value and the contents of the memory register with the result being stored in the memory register.

Clicking on this key causes the displayed value and the contents of the memory register to be exchanged.

Clicking on this key clears the current calculation and displayed value.   This key **does not** clear the memory register.   To do that click on this key and then click the STO key.

percent function.

Clicking on this key deletes the last digit of the displayed value during the entry process. This key is general used to edit an entry if the wrong digit was pressed.

division operator.

multiplication operator

subtraction operator

addition operator

= performs any calculation on the previous two numbers.

square root function

Clicking on the key finds the **nth** root of **x**.   Enter **x**, click this key, enter **n** and click the EQUAL key.

Clicking on this key calculates **x** to the **nth** power.

the memory register

changes the sign of the displayed value

inserts a decimal point

Glossary

Term	Definition
Abscissa	The abscissa is the x-coordinate of an ordered pair.
Absolute Value	a = a if a ≥ 0 and -a if a < 0
Acute Angle	An Acute Angle is any angle less than 90 degrees.
Addition	The sum of two numbers a and b, where a and b are the addends.
Addition Principle of Equality	This says that you can add the same quantity to both sides of an existing equation.
Additive Inverse	The additive inverse of a number, b, is the opposite, -b.
Algebra	Algebra is a continuation and extension of the rules of arithmetic into a more general level.
Angle	An angle is formed when two lines intersect at a point forming the sides of the angle. The point of intersection is the vertex.
Area	Area is the amount of surface of a figure.
Associative Property of Addition	a + (b+c) = (a+b) + c
Associative Property of Multiplication	a x (b x c) = (a x b) x c
Binomial	A binomial is polynomial with two terms.
Celsius (or Centigrade)	This is a temperature measurement scale used in the metric system.
Circle	This is the collection of all points that are a fixed distance from a given point.
Circumference	This is the distance around a circle.
Coefficient	This is a number that is multiplied times

a variable.

Coinciding Lines	These are two lines that are right on top of each other. Actually the same line.
Commutative Property of Addition	a + b = b + a
Commutative Property of Multiplication	a x b = b x a
Complex Fraction	This is any fraction with either the numerator, the denominator, or both containing a fraction.
Composite Number	A composite number is a number that can be broken down into two or more factors.
Conjugates	The expressions $\sqrt{a}$ + $\sqrt{b}$ and $\sqrt{a}$ - $\sqrt{b}$ are said to be conjugates of each other. Similarly a + bi and a - bi are conjugates.
Constant	A constant is a fixed number.
Contradiction	A contradiction is an equation that implies that a false sentence is true.
Degree	A degree is a unit of measurement for an angle.
Degree of Polynomial	For polynomials with one variable, this is the highest exponent on the variable.
Denominator	For the fraction, a/b, b is the denominator.
Diameter	A diameter of a circle is a line connecting two points on the circle and passes through the center of the circle.
Distributive Property	a (b + c) = ab + ac
Division	Division can be thought of as repeated subtraction. In the expression a ÷ b = c, a is the dividend, b is the divisor, and c is the quotient. The number a is divisible by b if the remainder is zero.
English System of Measurement	This is the system of measurement used in the United States.
Equation	This is a mathematical sentence stating

that two expressions are equal.

Equilateral Triangle	This is a triangle with three equal sides.
Equivalent Equations	These are equations that have the same solutions.
Equivalent Fractions	These are fractions that have the same numerical value.
Exponent	In the expression, b^n , n is the exponent and b is the base.
Factored Completely	An expression is factored completely when none of its factors can be broken down any further.
Factoring	Factoring is breaking down a number or expression into products of smaller parts.
Fahrenheit Scale	This is a temperature measurement scale used in the English system.
Formula	A formula is a sentence expressed symbolically showing the mathematical relationships among variables.
Fraction	A fraction is any number that can be written in the form a/b with b $\neq$ zero.
Gram	The gram is the standard unit of weight in the metric system.
Graph	A graph is a picture of the set of solutions of a given equation.
Greatest Common Factor	The GCF of a set of numbers is the largest number that will divide evenly into each number in the original set of numbers. The GCF of a polynomial is the largest polynomial that will divide evenly into the polynomial.
Hexagon	A hexagon is any six-sided figure.
Hypotenuse	The hypotenuse of a right triangle is the longest side.
Identity	An identity is an equation that is true for every value of the variable.
Identity Element of Addition	The additive identity is the number zero.

Identity Under Multiplication	The multiplicative identity is the number one.
Improper Fraction	An improper fraction is a fraction with the top number greater than or equal to the bottom number.
Integers	{...-3,-2,-1,0,1,2,3...}
Inverse	The multiplicative inverse of a number, b, is 1/b.
Isosceles Triangle	An isosceles triangle is any triangle with two equal sides.
Least Common Multiple	The LCM of a set of numbers is the smallest number that each of the numbers in the original set will divide into evenly.
Legs	The legs of a right triangle are the two shorter sides.
Like Terms	Like terms are terms that have the same letters raised to the same powers.
Linear Equation	Linear equation in one variable can be written in the form $ax = b$, $a \neq 0$. A linear equation in two variables can be written in the form $ax + by = c$.
Liter	The liter is the standard unit of volume in the metric system.
Lowest Common Denominator	The LCD of a set of denominators is the smallest number that each of the denominators will divide into evenly.
Meter	The meter is the standard unit of length in the metric system.
Metric System	The metric system is a system of measurement for length, weight, volume, temperature, and others that is used throughout most of the world.
Mixed Numbers	A mixed number is the sum of a whole number and a fraction.
Monomial	A monomial is a one-termed expression.
Multiple	A multiple of the number, b, is a whole number times b.

Multiplication	In the expression, a x b = c, a is the multiplier, b is the multiplicand, and c is the product.
Multiplication Principle of Equality	This states that you can multiply both sides of an existing equation by the same non-zero number.
Negative Numbers	The negative numbers are the numbers less than zero.
Numerator	The numerator is the top number in a given fraction.
Obtuse Angle	An obtuse angle is any angle that is greater than 90 degrees and less than 180 degrees.
Octagon	An octagon is an eight-sided figure.
Opposite	The additive opposite of b is -b. The additive opposite of -b is b.
Ordered Pair	An ordered pair, (x,y), is a point in the rectangular coordinate system.
Ordinate	An ordinate is the second coordinate in an ordered pair.
Parabola	A parabola is the curve you get when you graph a quadratic equation.
Parallel Lines	Two lines in the same plane are parallel if they never intersect.
Parallelogram	A parallelogram is a four-sided figure with opposite sides parallel.
Pentagon	A pentagon is any five-sided figure.
Perimeter	The perimeter of a figure is the total distance around the figure.
Perpendicular Lines	Two lines are perpendicular if they meet at a right angle.
Pi	Pi is the number of times the diameter divides into the circumference of a circle. It is approximately 3.14 times. ($\pi \approx 3.14$)
Place Value	The place value of a digit in a decimal number is the name of the place or location of that digit in the decimal

number.

Polygon	A polygon is a closed figure with more than two sides.
Polynomial	A polynomial is an expression of the form $ax^{\neq} + ... + bx + c$.
Positive numbers	The positive numbers are those numbers greater than zero.
Prime Factorization	The prime factorization of a number is the expression of that number as a product of its prime factors.
Prime Numbers	{1,2,3,5,7,11,13,17,19,23,...}
Product of the Extremes Equals the Product of the Means	In the equation a/b = c/d, this statement says that ad = bc.
Proper Fraction	A proper fraction is one with the top number smaller than the bottom number.
Proportion	A proportion is an equation with one fraction set equal to another fraction.
Quadratic Equation	$ax^2 + bx + c = 0, \quad a \neq 0$.
Quadrilateral	A quadrilateral is any four-sided figure.
Radical	A radical is an expression of the form $\neq$ $\neq$.
Radius	The radius of a circle is the distance from the center to any point on the circle.
Rate	A rate is a ratio of two numbers with different units like 40 miles/ 2 hours.
Ratio	A ratio is a fraction, a/b.
Rational Expression	A rational expression is the quotient of two polynomials.
Reciprocal	The reciprocal of a fraction, a/b, is the fraction, b/a.
Rectangle	A rectangle is a parallelogram with four right angles.

Repeating Decimal	A repeating decimal expansion of a fraction is one in which a repeating pattern of digits occurs.
Right Angle	A right angle is a 90 degree angle.
Right Triangle	A right triangle is a triangle with one right angle.
Root	A root of an equation in one variable is a solution of the equation.
Slope	The slope of a line is the ratio of rise to run.
Solution	A solution of an equation in one variable is a number that makes a true sentence of the equation. It is also a root of the equation.
Square	A square is a rectangle with four equal sides.
Solution of a System of Equations	A solution of a system of equations in two variables is an ordered pair that makes both equations true.
Subtraction	In the subtraction expression, a - b = c, a is the minuend, b is the subtrahend, and c is the difference.
Temperature	The temperature of an object is a measure of how hot or cold the object is.
Terminating Decimal	A terminating decimal expansion of a fraction is one in which the decimal expansion has all zeros from some point on.
Trapezoid	A trapezoid is any four-sided figure that has two sides that are parallel.
Triangle	A triangle is any three-sided figure.
Trinomial	A trinomial is any polynomial with three terms.
Undefined Division	Division by zero is undefined.
Unit Rate	A unit rate is a ratio of two numbers with different units in the denominator of the fraction is like 40 miles/ 1 hour.
Variable	A variable is a letter that is used as a temporary replacement for numbers.
Vertex	The vertex of a polygon is a corner. The vertex of a parabola is the highest or

lowest point.

Volume   Volume is the measurement of the
                           space enclosed by a solid.

Whole Numbers   {0,1,2,3,4,...}

X-Intercept   x-Intercept of an equation is a point
                           where the graph touches the x-Axis.

Y-Intercept   A y-Intercept of an equation is a point
                           where the graph touches the y-Axis.