INTRODUCTION

Congratulations on your selection of the Corvus 400 Personal Pocket Calculator. You've made an excellent choice. The 400 combines compact size and portability with reliable, time-saving calculation capability needed to serve your day-to-day needs.

Six functions including Percentage (%) and Average (N), plus floating decimal and automatic constant provide instant answers to your math problems in the home, office or in the classroom. Anywhere. And operation is elementary, even for the children.

A single "calculator on a chip" integrated circuit from MOSTEK Corporation and Corvus' quality-assured manufacturing will provide you long trouble-free calculator life.

FEATURES

✓ Eight digit, light emitting display
✓ Six functions include add (+), subtract (-), multiply (x), divide (+), percentage (%), and average (N)
✓ Full floating decimal
✓ Automatic constant in 5 functions, always second number entered
✓ Chain and mixed calculations
✓ Simple problem entry
✓ Positive touch keyboard
✓ Replaceable battery operation
✓ Low power consumption for longer battery life
✓ Compact and lightweight design

INDEX

INTRODUCTION .......................... 2
FEATURES .............................. 3
CALCULATOR OPERATION .............. 4
Function Keys .......................... 4
8 Digit Display .......................... 5
Floating Decimal ......................... 5
Reciprocal ................................ 5
Constants ............................... 6
Powers .................................. 6
Battery Operation ....................... 6
Overflow Conditions .................... 6
BASIC CALCULATIONS .................... 7
SAMPLE PROBLEMS ..................... 8
COMMON PROBLEMS ................. 11
CALCULATOR MAINTENANCE .......... 13
WARRANTY .............................. 16
CALCULATOR OPERATION

ON-OFF SWITCH
The on-off switch is located at the top left corner of
the keyboard (see figure 1).

NUMERIC KEYS
0—9 Used to enter the numbers.

DECIMAL KEY
• In decimal fractions, this key is used to enter the
decimal point in its proper place.

CLEARING KEY
C Clears all information stored in the calculator including
any displayed number, in preparation for a new
problem. Returns display to a single zero “0”.
The clear key can also “erase” incorrectly entered
numbers, if pressed before striking a function key without
interrupting chain calculations. Display returns to “0”.

FUNCTION KEYS
× Multiplication. Instructs the calculator to multiply the
displayed number by the next numeric entry. During
chain calculations it will simultaneously complete any
previous calculation.
÷ Division. Instructs the calculator to divide the dis-
dplayed number by the next numeric entry. During chain
calculations it will simultaneously complete any previous
calculation.
+ Addition. Instructs the calculator to add the displayed
number to the next numeric entry. During chain calcula-
tions it will simultaneously complete any previous
calculation.
− Subtraction. Instructs the calculator to subtract the
next entry from the displayed number. During chain
calculations it will simultaneously complete any previous
calculation.

% Percentage Instructs the calculator to automatically
multiply the displayed number by 1/100th resulting in
a percentage. See page 8.

N Average Instructs the calculator to display a count of
entries made in a chain. Used in obtaining averages.
See page 10 for example.

= Instructs the calculator to total and terminate
calculations previously entered (division, multiplication,
etc.) it is the operative key when calculating with
constants. See page 7 for calculation examples.

NUMERIC AND SYMBOL DISPLAY
Your calculator displays up to 8 digits using a light
emitting diode readout. The decimal point floats in
eight places.
(−) Negative sign floats to the left of displayed number.

FLOATING DECIMAL
Your calculator is equipped with full floating decimal
capabilities and will carry results of calculations to the
maximum number of places (decimal points) required
by the answer, within the units 8-digit capacity. It does
not round off fractions to the nearest number, but rather
truncates them. For example, 10 ÷ 3 would display
3.3333333 rather than 3.3333334.

RECIPIRALS
Another feature of this calculator is its ability to obtain
reciprocals (1/x: the quotient of a number divided into
one) without clearing and re-entering the number. Simply
press x⁻¹ key sequence following number entry or
during chain calculation. See page 8 for example.
CONSTANT FEATURE
An automatic built-in constant allows you to use a constant factor in addition, subtraction, multiplication, division, and percentage calculations. The second number entered is always the constant. See examples on page 9.

POWERS
Powers of whole numbers may be obtained by entering the number, depressing the \( \times \) key, and then the \( \div \) key. The calculator will now display the square or second power of the number entered. Successive powers are obtained by continuing to depress the \( \times \) key. The exponent may be a positive or negative whole number. See page 10 for example.

SIMPLICITY OF ENTRY
Entering problems is a simple operation. Just enter the problem in the same order as you would write it; for example, \( 10 - 5 = \)

BATTERY OPERATION
Included with your calculator are 4 disposable N-cell batteries which provide the equivalent of 20 hours continuous calculation under normal conditions. For battery replacement see page 13.

OVERFLOW CONDITIONS
- ENTRY—When an attempt is made to enter a number beyond the capacity of the calculator (8 digits), a flashing display will result. This condition is removed by pressing the C key.
- CALCULATION—When the results of a calculation exceed the calculator’s internal capacity, a flashing display will result. The displayed answer will only be approximately correct. This condition is removed by pressing the C key.

### BASIC CALCULATIONS

**ADDITION**

<table>
<thead>
<tr>
<th>ENTER</th>
<th>PRESS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.50</td>
<td>+</td>
<td>23.50</td>
</tr>
<tr>
<td>14.12</td>
<td>=</td>
<td>37.62</td>
</tr>
</tbody>
</table>

**SUBTRACTION**

<table>
<thead>
<tr>
<th>ENTER</th>
<th>PRESS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.45</td>
<td>-</td>
<td>37.45</td>
</tr>
<tr>
<td>16.30</td>
<td>=</td>
<td>21.15</td>
</tr>
</tbody>
</table>

**MULTIPLICATION**

<table>
<thead>
<tr>
<th>ENTER</th>
<th>PRESS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>525.30</td>
<td>( \times )</td>
<td>525.30</td>
</tr>
<tr>
<td>4</td>
<td>=</td>
<td>2101.2</td>
</tr>
</tbody>
</table>

**DIVISION**

<table>
<thead>
<tr>
<th>ENTER</th>
<th>PRESS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>( \div )</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>=</td>
<td>100</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>( \div )</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>=</td>
<td>16.66666666</td>
</tr>
<tr>
<td>(2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>( \div )</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>=</td>
<td>16.66666666</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SAMPLE PROBLEMS

<table>
<thead>
<tr>
<th>ENTER</th>
<th>PRESS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MIXED OR CHAIN CALCULATIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( (1.5 \times 4) + 3 )</td>
<td>( \frac{5}{6} - 7.4 )</td>
<td>( 1.5 \times )</td>
</tr>
<tr>
<td>( 4 )</td>
<td>( + )</td>
<td>( 6 )</td>
</tr>
<tr>
<td>( 3 )</td>
<td>( \div )</td>
<td>( 9 )</td>
</tr>
<tr>
<td>( 6 )</td>
<td>( - )</td>
<td>( 1.5 )</td>
</tr>
<tr>
<td>( 7.4 )</td>
<td>( = )</td>
<td>(-5.9)</td>
</tr>
</tbody>
</table>

| **RECIPIROCAL** |
| \( (1 \div 5) \) or \( 1 \div 5 \) | \( 5 \) | \( \div = = \) | \( 0.2 \) |
| \( \frac{35 \times 12}{75 + 175} \) | \( 75 \) | \( + \) | \( 75 \) |
| Problem may also be stated: | \( 175 \times = = x \) | \( 0.004 \) |
| \( \frac{1}{75 + 175} \times \frac{35 \times 12}{1} \) | \( 35 \) | \( \times \) | \( 1.68 \) |

| **PERCENTAGE** |
| (1) Determine percentage | \( 200 \times \) | \( 200 \) |
| \( 15 \times \% \) | \( 0.15 \) |
| \( = \) | \( 30 \) |

| (2) Discount: Determine net amount after discount | \( 3 \) | \( - \) | \( 200 \) |
| \( 10 \times \% \) | \( 20 \) |
| \( = \) | \( 180 \) |

### ENTER | PRESS | DISPLAY

(3) Mark-up:
\( 200 + 15\% \times 200 = \)
\( 200 \) | \( + \) | \( 200 \) |
\( 15 \times \% \) | \( 30 \) |
\( = \) | \( 230 \) |

### CONSTANT

(1) Addend
\( 125 + 25 = \)
\( 125 \) | \( + \) | \( 125 \) |
\( 250 + 25 = \)
\( 25 \) | \( = \) | \( 150 \) |
\( 212 + 25 = \)
\( 250 \) | \( = \) | \( 275 \) |
\( 212 \) | \( = \) | \( 237 \) |

(2) Subtrahend
\( 125 - 25 = \)
\( 125 \) | \( - \) | \( 125 \) |
\( 250 - 25 = \)
\( 25 \) | \( = \) | \( 100 \) |
\( 250 \) | \( = \) | \( 225 \) |

(3) Multiplier
\( 100 \times 20\% = \)
\( 100 \times \) | \( 100 \) |
\( 125 \times 20\% - \)
\( 20 \times \% \) | \( 20 \) |
\( 205 \times 20\% = \)
\( 125 \times \) | \( 25 \) |
\( 205 \times \) | \( 41 \) |

(4) Divisor
\( 3 \)
\( 3 \) | \( = \) | \( 2 \) |
\( 156 \div 3 \)
\( 156 \) | \( = \) | \( 52 \) |
\( 918 \div 3 \)
\( 918 \) | \( = \) | \( 306 \) |
**AVERAGES (N KEY)**

Find the average grade:

<table>
<thead>
<tr>
<th>Grade</th>
<th>C</th>
<th>Press</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>82</td>
<td>+</td>
<td>82</td>
</tr>
<tr>
<td>91</td>
<td>91</td>
<td>+</td>
<td>173.0</td>
</tr>
<tr>
<td>89</td>
<td>89</td>
<td>+</td>
<td>262.0</td>
</tr>
<tr>
<td>82</td>
<td>82</td>
<td>+</td>
<td>344.0</td>
</tr>
<tr>
<td>78</td>
<td>78</td>
<td>+</td>
<td>422.0</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>=</td>
<td>84.4</td>
</tr>
</tbody>
</table>

**POWERS**

<table>
<thead>
<tr>
<th>10^x</th>
<th>C</th>
<th>Press</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>16</td>
<td>x</td>
<td>16</td>
</tr>
<tr>
<td>256</td>
<td>256</td>
<td>=</td>
<td>256</td>
</tr>
<tr>
<td>4096</td>
<td>4096</td>
<td>=</td>
<td>4096</td>
</tr>
<tr>
<td>65536</td>
<td>65536</td>
<td>=</td>
<td>65536</td>
</tr>
<tr>
<td>1048576</td>
<td>1048576</td>
<td>=</td>
<td>1048576</td>
</tr>
</tbody>
</table>

**SQUARE ROOTS**

Finding the square root of a number is easy using the approximation method. For example, you want the square root of 36. Use 6 as the initial approximation since \( \sqrt{36} = 6 \).

\[
\begin{align*}
A_1 & = 1 \text{st approximation} \\
A_2 & = \text{2nd approximation} \\
\frac{A_1 + A_0}{2} & = \text{3rd approximation} \\
\frac{6 + 36}{2} & = 21 \\
\frac{21 + 6}{2} & = 13.5 \\
\frac{13.5 + 6}{2} & = 9.75 \\
\frac{9.75 + 6}{2} & = 8.375 \\
\frac{8.375 + 6}{2} & = 7.6875 \\
\frac{7.6875 + 6}{2} & = 7.08125 \\
\frac{7.08125 + 6}{2} & = 6.571875 \\
\frac{6.571875 + 6}{2} & = 6.285714 \\
\frac{6.285714 + 6}{2} & = 6.071429 \\
\frac{6.071429 + 6}{2} & = 6.015625 \\
\frac{6.015625 + 6}{2} & = 6.007812 \\
\frac{6.007812 + 6}{2} & = 6.003906 \\
\frac{6.003906 + 6}{2} & = 6.000953 \\
\frac{6.000953 + 6}{2} & = 6.000476 \\
\frac{6.000476 + 6}{2} & = 6.000238 \\
\frac{6.000238 + 6}{2} & = 6.000119 \\
\frac{6.000119 + 6}{2} & = 6.000059 \\
\frac{6.000059 + 6}{2} & = 6.000029 \\
\frac{6.000029 + 6}{2} & = 6.000014 \\
\frac{6.000014 + 6}{2} & = 6.000007 \\
\frac{6.000007 + 6}{2} & = 6.000004 \\
\frac{6.000004 + 6}{2} & = 6.000002 \\
\frac{6.000002 + 6}{2} & = 6.000001 \\
\frac{6.000001 + 6}{2} & = 6.000000 \\
\frac{6.000000 + 6}{2} & = 6.000000 \\
\frac{6.000000 + 6}{2} & = 6.000000 \\
\frac{6.000000 + 6}{2} & = 6.000000 \\
\end{align*}
\]

\( \sqrt{36} = 6 \)

**COMMON PROBLEMS**

In the home, on the job or in class... whatever your math needs, the Corvus 400 can help solve a host of daily math problems: Weekly shopping trips, balancing the checking account, averages, gratuities, mileage, homework, cooking, painting (area)... the list goes on. And you can enter your problems just as you would write them on paper. Simple enough for the entire family.

**COMPARING PRICES**

While grocery shopping you want to economize and get the most for your money. A 16 oz. brand can of shortening costs 84 cents and a comparable brand costs 70 cents in a 20 oz. can. Which costs less per ounce?

<table>
<thead>
<tr>
<th>ENTER</th>
<th>PRESS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand A: 64¢ + 16 =</td>
<td>C 0</td>
<td>0.64</td>
</tr>
<tr>
<td>Brand B: 70¢ + 20 =</td>
<td>.70 + 0.70</td>
<td>0.35</td>
</tr>
</tbody>
</table>

Brand "B" is a better buy by ½¢ per ounce.

**MILEAGE**

You want to figure the gas mileage on a trip you're planning, and then compare it with mileage in the city.

Here's how: At the start of your trip fill the gasoline tank full and record the mileage. Each subsequent time you fill up record the quantity purchased, including the quantity needed to fill your tank immediately upon reaching your destination. Deduct final mileage from mileage recorded at start of trip and divide by total gallons used.
**MILEAGE**

<table>
<thead>
<tr>
<th>ENTER</th>
<th>PRESS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start 4567</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Finish 5377</td>
<td>5377</td>
<td>-</td>
</tr>
<tr>
<td>Gasoline bought = 38 gal.</td>
<td>4567</td>
<td>+</td>
</tr>
<tr>
<td>Gas mileage = miles/gallon</td>
<td>38</td>
<td>=</td>
</tr>
</tbody>
</table>

Follow the same procedure for figuring city gas mileage.

**AVERAGES**

The end of school term is approaching. You want to find the lowest score you must make on the final exam to get a "B" in the course. Test scores during the term were 82, 75, 63, 77, 88, 83. Final test counts 25% of final grade.

Semester grade 80 ("B") = .75 (Avg.) + .25 (X)  

or \[ X = \frac{80 - \{(75)(78)\}}{.25} \]

\[ \begin{align*}
82 & + 82 \\
75 & + 157 \\
63 & + 220 \\
77 & + 297 \\
88 & + 385 \\
83 & + N = 78 \\
\quad & \times 78, \\
.75 & = 58.5 \\
C & = 0 \\
80 & - 80 \\
58.5 & + 21.5 \\
25 & \% = 86. 
\end{align*} \]

Any grade, 86 or above, on the final exam will insure a "B" in the course.

---

**CALCULATOR MAINTENANCE**

**CLEANING**

Case may be cleaned with alcohol or damp cloth. Display lens may be cleaned with soft cloth and glass cleaner.

**STORAGE**

Unit should not be exposed to temperatures below -40°F or above 150°F for prolonged periods (these temperatures might be encountered in a closed automobile, for example).

**TROUBLE SHOOTING**

If a problem occurs, verify the power switch is "ON". If blank or weak display is present, check or replace batteries; observe correct polarity. If the display is lighted but result is incorrect, review your operation instructions.

Should the above suggestions fail to correct the problem, refer to your service certificate for instructions.

**POWER**

The four N-cell batteries that operate your calculator will have a longer life if power is turned off when not in use and the calculator is cleared with the [C] key after obtaining calculation results.

**BATTERY REPLACEMENT**

N-cell batteries are readily available at any camera store or department. To replace, remove cover from bottom of calculator, remove old batteries and place new ones according to the outline in the battery compartment. This will insure correct polarity.
Failure to properly install the batteries will result in the failure of the calculator to operate.

Batteries which may be used in your calculator include but are not necessarily limited to the following:

<table>
<thead>
<tr>
<th>Company</th>
<th>Carbon-Zinc</th>
<th>Alkaline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eveready</td>
<td>E340E, 904</td>
<td>E90</td>
</tr>
<tr>
<td>Mallory</td>
<td>MN9100</td>
<td></td>
</tr>
<tr>
<td>Ray-O-Vac</td>
<td>910F, RN</td>
<td>910A</td>
</tr>
<tr>
<td>Burgess</td>
<td>310</td>
<td>AL-N</td>
</tr>
</tbody>
</table>

Note: Batteries are not guaranteed by the calculator manufacturer. They should not be included with unit if returned for servicing.

CAUTION: Some batteries have the tendency to leak when power is exhausted. To prevent possible damage replace weak batteries without delay. Corvus cannot be responsible for damage to calculator due to leakage.

NOTES:

SERVICE CERTIFICATE

Your electronic calculator is a precision electronic instrument which will serve you for many years with normal care.

CORVUS CORPORATION guarantees this calculator against defects in materials or workmanship for a period of one year from date of purchase. This guarantee applies only to the original owner registered on the card attached. This card must be completed and mailed, postage paid, within ten (10) days from date of purchase. Any merchandise that has been repaired by an unauthorized party, tampered with, or abused is not covered by this guarantee.

After one year from date of purchase CORVUS CORPORATION will repair any unit for the minimum service charge of Nine Dollars ($9.00). Any unit requiring repair after this one year period should be returned, postage prepaid, and fully insured, with a check or money order for Nine Dollars ($9.00) to the nearest service center.

Ship in the original packaging container or in a similar construction container, via U.P.S. where possible. Enclose a letter explaining the problem, with place and date of purchase.

Service Center: Corvus Corporation 113030 Branch View Lane, Dallas, Texas 75234

MODEL NO. ________________________________________________

DATE OF PURCHASE ________________________________________

DEALER'S NAME ___________________________________________

SERIAL NO. ______________________________________________