



# **BA-20**

## **Profit Manager™**

**Quick Reference Guide**  
**English**

# The BA-20 Profit Manager™

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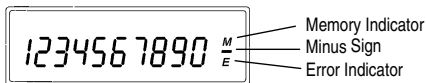
## Turning the Calculator On and Off

To turn the BA-20 on, expose the solar panel to an adequate light and press  $\boxed{AC}$ .

The BA-20 turns off when the solar panel is no longer exposed to the light.

Protect your BA-20 from prolonged periods of direct sunlight and high temperatures.

## Calculator Display



You can enter and display 10-digit numbers (with a maximum of 9 digits to the right of the decimal). Apostrophes separate large numbers into hundreds, thousands, etc. (such as 44'444'444).

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<b>M</b>	Number other than 0 is stored in memory.
<b>-</b>	Number in the display is negative.
<b>E</b>	Error condition.

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## Accuracy and Rounding Information

Calculations are accurate to the tenth digit. When a calculation result exceeds 9999999999, the first 10 digits are displayed with a decimal point 10 places to the left of its true position, and **E** is displayed. Position the decimal point correctly by mentally moving it 10 places to the right and inserting zeros as required.

Calculations with more than 10 digits to the right of the decimal point are rounded to 10 digits.

## Basic Operations

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**AC** Clears the calculator and the memory.

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**CE/C** Press once to correct entry errors. Pressing **CE/C** before **+**, **-**, **×**, or **÷** clears the display without affecting calculations. Pressing **CE/C** immediately after **+**, **-**, **×**, or **÷** clears the calculation.

Press **CE/C** twice to clear the calculator; the memory is not affected.

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**0** – **9** Enters digits 0 through 9.

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**.** Enters a decimal point.

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**+/-** Changes the sign of the displayed number.

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**=** Displays the result of a calculation.

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**Note:** The BA-20 completes arithmetic operations as they are entered.

## Examples

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$7.921 + 1.6 - 12.321 = ?$

$7.921 \text{ [ + ] } 1.6 \text{ [ - ] } 12.321 \text{ [ = ]} \quad 2.8 -$ 

---

$\frac{12 \times 13}{6} = ?$

$12 \text{ [ \times ] } 13 \text{ [ \div ] } 6 \text{ [ = ]} \quad 26.$ 

---

## Calculations with a Constant

The BA-20 retains the last operation and its associated number. This allows you to repeat calculations by entering only the new number and pressing [=].

For addition, subtraction, and division, pressing [=] repeats the operation and the number that follows it.

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$2 + 3 = ?; 4 + 3 = ?; 6 + 3 = ?$

$2 \text{ [ + ] } 3 \text{ [ = ]} \quad 5.$

$4 \text{ [ = ]} \quad 7.$

$6 \text{ [ = ]} \quad 9.$ 

---

$8 - 6 = ?; 3 - 6 = ?; 10 - 6 = ?$

$8 \text{ [ - ] } 6 \text{ [ = ]} \quad 2.$

$3 \text{ [ = ]} \quad 3. -$

$10 \text{ [ = ]} \quad 4.$ 

---

$27 \div 3 = ?; 15 \div 3 = ?; 24 \div 3 = ?$

$27 \text{ [ \div ] } 3 \text{ [ = ]} \quad 9.$

$15 \text{ [ = ]} \quad 5.$

$24 \text{ [ = ]} \quad 8.$ 

---

For multiplication, pressing  $\square$  repeats the operation and the number that precedes it.

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 $3 \times 8 = ? ; 3 \times 15 = ? ; 3 \times 30 = ?$

$3 \square \times 8 \square = 24.$

$15 \square = 45.$

$30 \square = 90.$ 

---

## Squares and Square Roots

To square a number, enter the number and press  $\square$   $\square$ .

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 $2.5^2 = ?$

$2.5 \square \square = 6.25$

---

 $(1.6 \times 2.5)^2 = ?$

$1.6 \square \times 2.5 \square \square = 16.$ 

---

To find the square root of a number, enter the number and press  $\square$ .

---

 $\sqrt{144} = ?$

$144 \square = 12.$ 

---

$\sqrt{16^2 + 33} = ?$

$16 \square \square + 33 \square \square = 17.$ 

---

**Note:** Attempting to find the square root of a negative number results in an error.

## Percent Calculations

**Percentages:** 5% of \$250 = ?

$$250 \times 5\% = 12.5$$

**Add-ons:** \$250 plus 5% markup = ?

$$250 + 5\% = 262.5$$

— or —

$$250 \times 5\% = 12.5$$

$$+ = 262.5$$

**Discounts:** \$250 less 5% discount = ?

$$250 - 5\% = 237.5$$

— or —

$$250 \times 5\% = 12.5$$

$$- = 237.5$$

**Ratios:** \$600 is what percent of \$1,500?

$$600 \div 1500 = 40\%$$

**Combinations:** \$129 less 25% discount  
plus 4% tax = ?

$$129 - 25\% + 4\% = 100.62$$

## Cost, Sell, and Margin

The BA-20 assists you in making informed decisions concerning cost, selling price, and profit margin.



Using the keys in the CST, SEL, and MAR columns, any one of these figures can be calculated when the other two are known.

The following points should be noted while working cost-sell-margin problems:

- The column of keys you use is determined by the type of calculation you want to make.
- Within each column, two keys identify the data required for that calculation.
- Data for the top key must be entered prior to data for the lower key.
- The results are displayed after the last entry has been made.
- An error message is displayed if the data is entered out of sequence or entered using keys from different columns.



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**Determine the Cost** (CST column keys)

If the selling price of an item is \$1.25 and the margin is 20%, find the cost of the item?

1.25  20  1.

---

**Determine the Selling Price** (SEL column keys)

If the cost of an item is \$1.00 and the margin is 20%, find the selling price.

1  20  1.25

---

**Determine the Margin** (MAR column keys)

If the cost of an item is \$1.00 and the selling price is \$1.25, find the margin percentage.

1  1.25  20.

---

## Memory Operations

**M** appears in the display when the memory contains a number other than zero.

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<input type="text" value="MRC"/>	Recalls the value in memory to the display.
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<input type="text" value="MRC"/> <input type="text" value="MRC"/>	Clears memory.
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<input type="text" value="M+"/>	Adds the displayed value to the value in memory.
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<input type="text" value="M-"/>	Subtracts the displayed value from the value in memory.
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## Examples

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$$(4 \times 11.99) - (12 \times 0.98) = ?$$

$$\boxed{\text{MRC}} \boxed{\text{MRC}} 4 \boxed{\times} 11.99 \boxed{\text{M}+}$$

47.96 <sup>M</sup>

$$12 \boxed{\times} .98 \boxed{\text{M}-}$$

11.76 <sup>M</sup>

$$\boxed{\text{MRC}} \boxed{=}$$

36.2 <sup>M</sup>

---

$$\frac{7.9 + 8.1}{-(5.2 + 2.8)} = ?$$

$$\boxed{\text{MRC}} \boxed{\text{MRC}} 5.2 \boxed{+} 2.8 \boxed{\text{M}-}$$

8. <sup>M</sup>

$$7.9 \boxed{+} 8.1 \boxed{\div}$$

16. <sup>M</sup>

$$\boxed{\text{MRC}} \boxed{=}$$

2. <sup>M</sup>

---

$$4 \times 11.99 = x; 43.15 - x = ?$$

$$\boxed{\text{MRC}} \boxed{\text{MRC}} 4 \boxed{\times} 11.99 \boxed{\text{M}+}$$

47.96 <sup>M</sup>

$$43.15 \boxed{-} \boxed{\text{MRC}} \boxed{=}$$

4.81 <sup>M</sup>

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## Error Conditions

An error/overflow condition is indicated by **E** in the display. Press **CE/C** once to clear the error, press **CE/C** twice or **AC** once to clear the calculator. Do not continue calculations after you have cleared the overflow condition by pressing **CE/C** once.

An error occurs when you attempt to:

- Enter data into a cost, sell, or margin calculation using an incorrect key sequence (page 8).
- Enter an integer with more than 10 digits (page 4).
- Perform a calculation that results in an overflow more than 10 digits to the left of the decimal point (page 3).
- Add a number to memory that would exceed its 10-digit capacity (page 9).
- Divide a number by zero.
- Find the square root of a negative number.

## In Case of Difficulty

- Expose the calculator to adequate light.
- Review the instructions and repeat the calculation.

## TI Support and Service Information

### For General Information

E-mail: [ti-cares@ti.com](mailto:ti-cares@ti.com)  
Phone: 1-800-TI-CARES  
(1-800-842-2737)  
For U.S., Canada, Mexico, Puerto Rico, and Virgin Islands only  
Home Page: [education.ti.com](http://education.ti.com)

### For Technical Questions

Phone: 1-972-917-8324

### For Product (hardware) Service

**Customers in the U.S., Canada, Mexico, Puerto Rico and Virgin Islands:** Always contact Texas Instruments Customer Support before returning a product for service.

**All other customers:** Refer to the leaflet enclosed with this product (hardware) or contact your local Texas Instruments retailer/distributor.

## Service and Warranty Information

For information about the length and terms of the warranty or about product service, refer to the warranty statement enclosed with this product or contact your local Texas Instruments retailer/distributor.