

HP 12c Calculator - Percentage Functions

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Introduction

The HP 12c Financial calculator primarily uses three keys for solving percentage problems: $\%$, $\Delta\%$, and $\%T$. The percentages are converted to their decimal equivalents automatically when any of these keys is pressed. Thus, 4% need not be changed to 0.04. Key in 4% . The term 'base number' used in the following examples refers to the first number keyed into the calculator.

Calculating percentages

To find the amount corresponding to a percentage of a number:

1. Key in the base number.
2. Press ENTER .
3. Key in the percentage.
4. Press $\%$.

Example for calculating percentages

Find 14% of \$300:

Keystroke	Display	Description
3 0 0	300.	Keys in the base number.
ENTER	300.00	Pressing ENTER separates the next number entered from the first number, just as when an ordinary arithmetic calculation is performed.
1 4	14.	Keys in the percentage.
%	42.00	Calculates the amount.

NOTE:

If the base number is already in the display as a result of a previous calculation, do not press **ENTER** before keying in the percentage.

Calculating the net amount

A net amount is the base amount plus or minus a percentage of the base. To calculate a net amount, simply calculate the percentage amount, then press **+** or **-**.

Example for calculating the net amount

The purchasing price of a new car is \$13,250. The dealer offers a discount of 8%, and the sales tax is 6%. Find the amount the dealer is charging and find the total cost including tax.

Keystroke	Display	Description
1 3 2 5 0 ENTER	13,250.00	Keys in the base amount and separates it from the percentage.

Keystroke	Display	Description
8 %	1,060.00	Calculates the amount of discount.
-	12,190.00	Calculates the base amount less discount.
6 %	731.40	Calculates the amount of tax (on \$12,190).
+	12,921.40	Total cost: base amount less discount plus tax.

Calculating the percentage differences

To find the percent difference between two numbers:

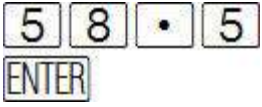
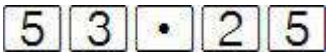

1. Key in the base number.
2. Press **ENTER** to separate the other number from the base number.
3. Key in the other number.
4. Press **Δ%**.


If the other number is greater than the base number, the percent difference will be positive. If the other number is less than the base number, the percent difference will be negative. Therefore, a positive answer indicates an increase, while a negative answer indicates a decrease.

While calculating a percent difference over time, the base number is typically the amount occurring first.

Example for calculating the percentage differences


Calculate the percent change if the stock of a share fell from $58\frac{1}{2}$ to $53\frac{1}{4}$.

Keystroke	Display	Description
	58.50	Keys in the base number and separates it from the other number.
	53.25	Keys in the other number.
	-8.97	Nearly a 9% decrease.



The  key is also used for calculating the percent difference between a wholesale cost and a retail cost. If the base number entered is the wholesale cost, the percent difference is called the 'markup,' that is, a percentage of cost; if the base number entered is the retail cost, the percent difference is called the 'margin,' or a percentage of price.

Calculating the total percentage


To calculate what percentage one number is of another:

1. Calculate the total amount by adding the individual amounts, just as in a chain arithmetic calculation.
2. Key in the number whose percentage equivalent is required.
3. Press .

The total is stored on the stack, so to calculate the percent for another number:

1. Clear the display by pressing .
2. Key in that amount.
3. Press  again.

To calculate what percentage a number is of a total, when the total number is already known:

1. Key in the total number.
2. Press  to separate the other number from the total number.
3. Key in the number whose percentage equivalent is required.

4. Press **%T**.

Example for calculating the total percentage

Last month, the company posted sales of \$3.92 million in the U.S., \$2.36 million in Europe, and \$1.67 million in the rest of the world. What percentage of the total sales occurred in Europe?

Keystroke	Display	Description
3 . 9 2 ENTER	3.92	Keys in the first number and separates it from the second.
2 . 3 6 +	6.28	Adds the second number.
1 . 6 7 +	7.95	Adds the third number to get the total.
2 . 3 6	2.36	Keys in 2.36 to find what percentage it is of the number in the display.
%T	29.69	Europe had nearly 30% of the total sales.

The calculator holds the total amount in the stack after a percent of total calculation. Therefore, to calculate what percent of the total sales in the preceding example occurred in the U.S. and what percent occurred in the rest of the world:

Keystroke	Display	Description
<div style="display: flex; align-items: center; gap: 5px;"> CLx 3 . 9 2 </div> <div style="margin-top: 5px;"> %T </div>	49.31	U.S. had about 49% of the total sales.
<div style="display: flex; align-items: center; gap: 5px;"> CLx 1 . 6 7 </div> <div style="margin-top: 5px;"> %T </div>	21.01	The rest of the world had about 21% of the total sales.

The percent total can also be calculated by keying in the total sales as in the preceding example. The total sales were \$7.95 million. Calculate the percentage of that total occurred in Europe.

Keystroke	Display	Description
<div style="display: flex; align-items: center; gap: 5px;"> 7 . 9 5 </div> <div style="margin-top: 5px;"> ENTER </div>	7.95	Keys in the total amount and separates it from the next number.
<div style="display: flex; align-items: center; gap: 5px;"> 2 . 3 6 </div>	2.36	Keys in 2.36 to find what percentage it is of the number in the display.
<div style="margin-top: 5px;"> %T </div>	29.69	Europe had nearly 30% of the total sales.