

# Simple Interest Calculations

The HP-12C simultaneously computes the simple accrued interest amount for a number of days in both 360 and 365 days per year basis. You can display either one, as described below. Furthermore, with the accrued interest in the display, you can calculate the total amount due (principal plus accrued interest) by pressing [ + ] in RPN mode or [ + ] [X $\rightleftharpoons$ Y] [ = ] in ALG mode.

## To calculate simple interest:

- 1) Enter the number of days and press [ n ].
- 2) Enter the annual interest and press [ i ].
- 3) Enter the principal and press [CHS] [PV].
- 4) Press [ f ] [INT] to calculate the interest accrued on a 360-day basis.
- 5) Press [R $\downarrow$ ] [X $\rightleftharpoons$ Y] to display the interest accrued on a 365-day basis.
- 6<sup>a</sup>) In RPN mode Press [ + ] to calculate the total of the principal and the accrued interest shown in the display.
- 6<sup>b</sup>) In ALG mode Press [ + ] [X $\rightleftharpoons$ Y] [ = ] to calculate the total of the principal and the accrued interest shown in the display.

Pressing the [PV] key stores the principal amount in the PV financial register, which then contains the present value of the amount on which interest will accrue. The [CHS] key is pressed to change the sign of the principal amount before storing it in the PV register. This is required by the cash flow sign convention, which is applicable primarily to compound interest calculations.

## Example : Simple Interest

What is the simple interest amount and total amount of a \$450 loan for 30 days at 7% annual interest?

## Solution: (in RPN mode)

Keystrokes	Description
Type "30" [ n ]	Type the number of days and press "n".
Type "7" [ i ]	Type the annual interest rate and press "i".
Type "450" [CHS] [PV]	Type the principal, change sign and press "PV".
[f] [INT]	Calculates the accrued interest (360 days). <b>Result = 2.63</b> Note that the 360 and 365 day interest amounts appear in the X and Z Stack Registers respectively.
For 360-days [ + ]	Adds the accrued interest and principal. <b>Result = 452.63</b>
For 365-days [R↓] [X↔Y]	Shows the accrued interest (365 days). <b>Result = 2.59</b>
[ + ]	Adds the accrued interest and principal. <b>Result = 452.59</b>

## Solution: (in ALG mode)

Keystrokes	Description
Type "30" [ n ]	Type the number of days and press "n".
Type "7" [ i ]	Type the annual interest rate and press "i".
Type "450" [CHS] [PV]	Type the principal, change sign and press "PV".
[f] [INT]	Calculates the accrued interest (360 days). <b>Result = 2.63</b> Note that the 360 and 365 day interest amounts appear in the X and Z Stack Registers respectively.
For 360-days [ + ] [X↔Y] [ = ]	Adds the accrued interest and principal. <b>Result = 452.63</b>
For 365-days [R↓] [ + ] [X↔Y]	Shows the accrued interest (365 days). <b>Result = 2.59</b>
[ = ]	Adds the accrued interest and principal. <b>Result = 452.59</b>