

| TRG_R47   | Trigonometry |             |              |                   |                    |            |
|-----------|--------------|-------------|--------------|-------------------|--------------------|------------|
| g-shift   | →R           | →P          | .ms          | .ms <sup>-1</sup> | sinc               | sinc $\pi$ |
| f-shift   | ⇒DEG         | ⇒RAD        | ⇒GRAD        | ⇒D.MS             | ⇒MULT $\pi$        |            |
| unshifted | DEG $\odot$  | RAD $\odot$ | GRAD $\odot$ | D.MS $\odot$      | MULT $\pi$ $\odot$ | ATAN2      |
| Page 1    | F1           | F2          | F3           | F4                | F5                 | F6         |

Prev menu [https://47calc.com/doc/R47/Menus/R47v0\\_Menu\\_TRG\\_page\\_1.pdf](https://47calc.com/doc/R47/Menus/R47v0_Menu_TRG_page_1.pdf)

Next menu [https://47calc.com/doc/R47/Menus/R47v0\\_Menu\\_TRG\\_MORE\\_page\\_1.pdf](https://47calc.com/doc/R47/Menus/R47v0_Menu_TRG_MORE_page_1.pdf)

Ref 1 [https://47calc.com/doc/R47/Reference/R47v0\\_DMS-HMS.pdf](https://47calc.com/doc/R47/Reference/R47v0_DMS-HMS.pdf)

| Level      | Label             | Type                       | FullName                        | Extended description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Category                    | Flag  | Catalog           | Default |
|------------|-------------------|----------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------|-------------------|---------|
| Menu<br>p1 | TRG_R47           | MENU                       | Trigonometry                    | Trigonometry functions ; Info : TRG_R47 replaces C47 menu TRG ; Ref : <a href="https://47calc.com/doc/R47/Reference/R47v0_DMS-HMS.pdf">https://47calc.com/doc/R47/Reference/R47v0_DMS-HMS.pdf</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Trigonometry                |       | TRG_R47           |         |
| F1         | DEG @             | Setting (pgm)              | Set ADM to DEG                  | Set Angular Display Mode to degrees mode (ADM = 0) ; Info : SBI ° is shown if flag SBadm is SET ; SBI ˆ is shown if flag SBang and SBadm is SET ; SBI : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Angle tagging or conversion | SBadm | DEG @             | ON      |
| F2         | RAD O             | Setting (pgm)              | Set ADM to RAD                  | Set Angular Display Mode to radians mode (ADM = 2) ; Info : SBI ˆ is shown if flag SBang and SBadm is SET ; SBI : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Angle tagging or conversion | SBang | RAD O             | OFF     |
| F3         | GRAD O            | Setting (pgm)              | Set ADM to GRAD                 | Set Angular Display Mode to gradians mode (ADM = 4) ; Info : SBI ˆ is shown if flag SBang and SBadm is SET ; SBI : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Angle tagging or conversion | SBang | GRAD O            | OFF     |
| F4         | D.MS O            | Setting (pgm)              | Set ADM to D.MS                 | Set Angular Display Mode to sexagesimal degrees mode (ADM = 1) ; Info : SBI ˆ is shown if flag SBang and SBadm is SET ; SBI : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Angle tagging or conversion | SBang | D.MS O            | OFF     |
| F5         | MULπ O            | Setting (pgm)              | Set ADM to MULπ                 | Set Angular Display Mode to multiple of pi radians mode (ADM = 3) ; Info : SBI ˆ is shown if flag SBang and SBadm is SET ; SBI : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Angle tagging or conversion | SBang | MULπ O            | OFF     |
| F6         | ATAN2             | Function (dyadic)          | Expanded inverse tangent        | Arc tangent of Y / X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Trigonometry                |       | ATAN2             |         |
| fF1        | →DEG              | Function (monadic)         | Set DEG tag or convert to DEG   | If untagged, set tag to DEG (degrees) ; if tagged, convert X to DEG ; does not change Angular Display Mode ; Tag : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Angle tagging or conversion |       | →DEG              |         |
| fF2        | →RAD              | Function (monadic)         | Set RAD tag or convert to RAD   | If untagged, set tag to RAD (radians) ; if tagged, convert X to RAD ; does not change Angular Display Mode ; Tag : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Angle tagging or conversion |       | →RAD              |         |
| fF3        | →GRAD             | Function (monadic)         | Set GRAD tag or convert to GRAD | If untagged, set tag to GRAD (gradians) ; if tagged, convert X to GRAD ; does not change Angular Display Mode ; Tag : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Angle tagging or conversion |       | →GRAD             |         |
| fF4        | →D.MS             | Function (monadic)         | Set D.MS tag or convert to D.MS | If untagged, set tag to D.MS (sexagesimal degrees) ; if tagged, convert X to D.MS ; does not change Angular Display Mode ; Tag : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Angle tagging or conversion |       | →D.MS             |         |
| fF5        | →MULπ             | Function (monadic)         | Set MULπ tag or convert to MULπ | If untagged, set tag to MULπ (multiple of pi radians) ; if tagged, convert X to MULπ ; does not change Angular Display Mode ; Tag : °                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Angle tagging or conversion |       | →MULπ             |         |
| fF6        |                   |                            |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                             |       |                   |         |
| gF1        | →R                | Function (monadic, dyadic) | To rectangular                  | Transform polar to rectangular coordinates (dyadic, stack conventions according to flag RPH SET or CLEAR) ; transform Complex number or 2D/3D vector to rectangular notation (monadic) and set RECT tag ; TI : x : Re = ; y : Im = (RECT) ; Info : in Program Entry Mode, flag RPH determines whether →RECT <sub>hp</sub> or →RECT <sub>ex</sub> is stored ; vector display depends on flag 3Dxyz, for 2D rectangular vector : [ij] [ v <sub>1</sub> v <sub>2</sub> ] ; 3D rectangular vector : [ijk] [ v <sub>1</sub> v <sub>2</sub> v <sub>3</sub> ]                                                                                                                                                                                      | Complex and coordinates     | RPH   | →RECT             |         |
| gF2        | →P                | Function (monadic, dyadic) | To polar                        | Transform rectangular to polar coordinates (dyadic, stack conventions according to flag RPH SET or CLEAR) ; transform Complex number or 2D/3D vector to polar notation (monadic) and set POLAR tag ; TI : r = ; θ = (POLAR) ; Info : in Program Entry Mode, flag RPH determines whether →POL <sub>hp</sub> or →POL <sub>ex</sub> is stored ; for a 3D vector in X, function →POLAR (→P) cycles through →SPH, then →CYL ; vector display depends on flag 3Dxyz, for 2D polar vector : [rθ;ij] [ v <sub>1</sub> v <sub>2</sub> ] <sup>P</sup> ; 3D spherical vector : [rθ;ijk] [ v <sub>1</sub> v <sub>2</sub> v <sub>3</sub> ] <sup>a</sup> ; 3D cylindrical vector : [rθ;ijk] [ v <sub>1</sub> v <sub>2</sub> v <sub>3</sub> ] <sup>c</sup> | Complex and coordinates     | RPH   | →POLAR            |         |
| gF3        | .ms               | Function (monadic, cyclic) | Minutes & seconds               | Convert sexagesimal format input sequence or decimal stack value to hh:mm:ss hours or dd:mm:ss degrees (cyclic) ; Info : NIM input treated as sexagesimal (hh/dd.mmss) format ; stack input treated as decimal value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Time/angle conversions      |       | .ms               |         |
| gF4        | .ms <sup>-1</sup> | Function (monadic)         | Sexagesimal                     | Convert hh:mm:ss hours or dd:mm:ss degrees to sexagesimal format number (untag) ; TI : hh/dd.mmss ; Info : puts sexagesimal NIM input of .ms back as decimal number on the stack                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Time/angle conversions      |       | .ms <sup>-1</sup> |         |
| gF5        | sinc              | Function (monadic)         | Sinc                            | Calculate (Sine of X) / X ; Info : Integers and untagged reals are assumed to be radians                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mathematics                 |       | sinc              |         |
| gF6        | sincπ             | Function (monadic)         | Sinc pi                         | Calculate (Sine of π × X) / ( π × X) ; Info : Integers and untagged reals are assumed to be radians                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mathematics                 |       | sincπ             |         |