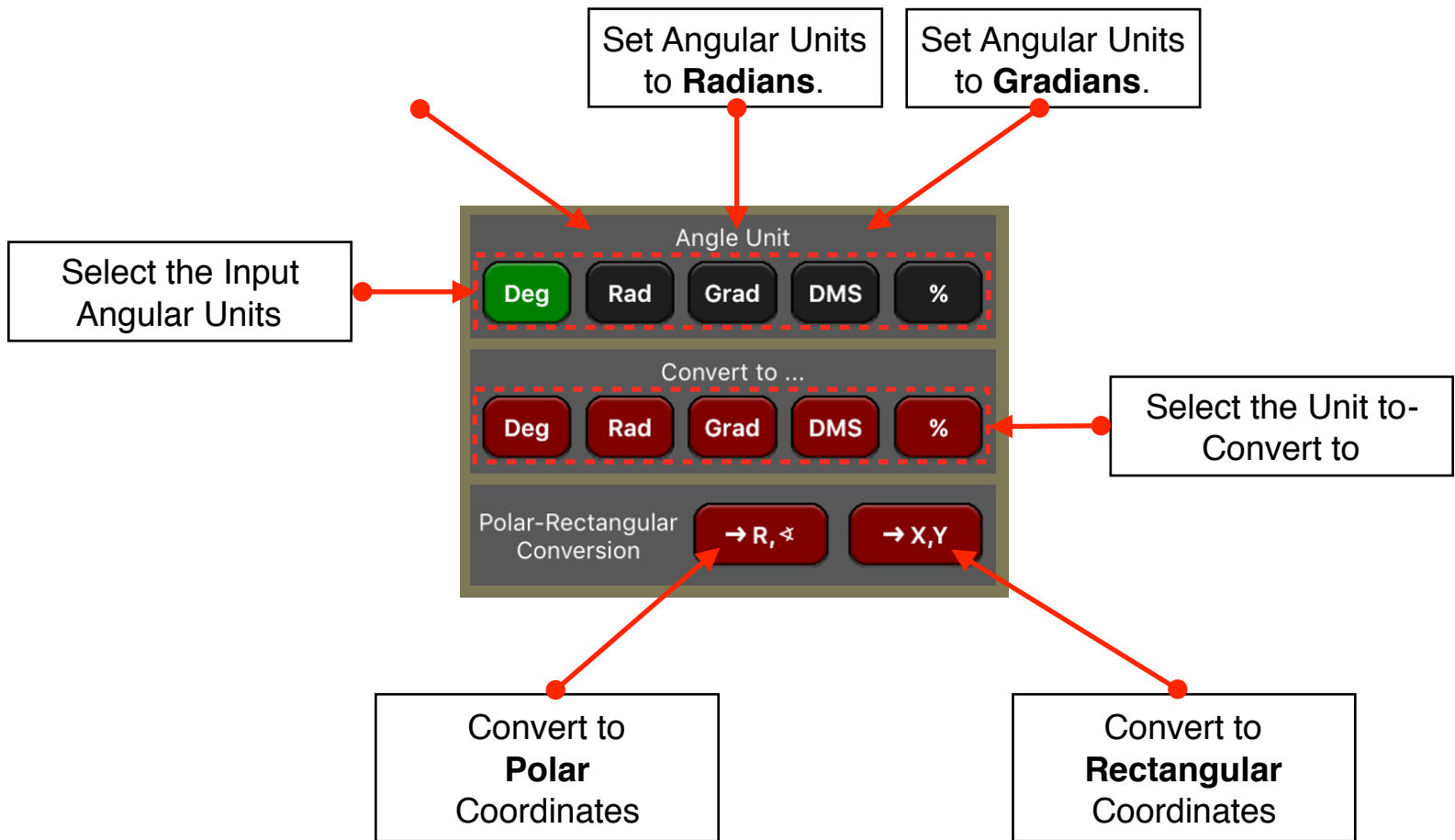


Angles & Polar Conversions “Pro” Tool

This tool implements an angular conversion expansion to the math functions included in the original HP-12C calculator. To show it, press the **OPT** key, touch the “Scientific” or “Convert” menu button, and select the “Angles & Polar” tool.



Once the Angular unit is set with the top five buttons, the calculation use that unit for input value. When a conversion is performed, the top five buttons indicate the resulting angular unit.

The following examples assumes the Convert Angle tool is already visible in the calculator.

Example: Angular Units Conversions

Convert 23.5 Degrees to Radians, gradians and Degree-Minutes-Seconds.

Keystrokes	Description
Type 23.5 & [Deg]	Type the value to convert and set the Angular unit to Degrees.
[Rad]	Convert to Radians. Result = 0.41
[Grad]	Convert to Gradians. Result = 26.11
[%]	Convert to slope percent. Result = 43.48
[DMS]	Convert to D.MMSS format. Result = 23.3000 (20 degrees, 30 minutes and 0 seconds).

Convert 88° 57' 23.45" to decimal degrees.

Keystrokes	Description
Type 88.572345 & [DMS]	Type the value to convert and set the Angular unit to Degrees.
[Deg]	Convert to decimal Degrees. Result = 88.9565

Convert " $\pi / 3$ " Radians to Degree-Minute-Second Format.

Keystrokes (RPN mode)	Description
Type "180" & [Deg] [Rad] "3" [÷]	Set Angular unit to Degrees, type 180, convert to radians and divide by 3. Result = 1.0472 ($\pi / 3$ radians).
[DMS]	Convert to D.MMSS format. Result = 60.00 (60 degrees, 0 minutes and 0 seconds).

Example: Coordinates Conversions (Polar - Rectangular Conversion).

Convert the rectangular coordinate (10.0, 5.0) to polar coordinates. Express the angular result in Degrees.

Keystrokes	Description
Type "5" [ENTER] "10"	Type the Y-coordinate touch Enter and type the X-coordinate
[Deg]	Set the Angular unit to Degrees.
[▶ R, ↵]	Convert to Polar. Result = 26.5651 (Angle in Degrees)
[X↔Y]	Result = 11.1803 (Radius)

Convert the polar coordinate (12.0 , ∠30.0°) to rectangular coordinates.

Keystrokes	Description
Type "12" [ENTER] "30"	Type the Angular-coordinate touch Enter and type the Radius-coordinate.
[Deg]	Set the Angular unit to Degrees.
[▶ X,Y]	Convert to Rectangular. Result = 10.3923 (X-coordinate).
[X↔Y]	Result = 6.00 (Y-coordinate).