

Keys	Function	Input Value(s)	Result(s)
COS	Cosine	Angle*	Cosine (x) in X
F1 [COS]	Arc cosine	x not be greater than 1 or less than -1 ($ x \leq 1$)	Principal value of arc cosine (x) in X ($0^\circ \leq \text{result} \leq 180^\circ$)*
SIN	Sine	Angle*	Sine (x) in X
F1 [SIN]	Arc sine	x not be greater than 1 or less than -1 ($ x \leq 1$)	Principal value of arc sine (x) in X ($-90^\circ \leq \text{result} \leq 90^\circ$)**
TAN	Tangent	Angle*	Tangent (x) in X
F1 [TAN]	Arc tangent	Unrestricted x	Principal value of arc tangent (x) in X ($-90^\circ \leq \text{result} \leq +90^\circ$)*
RAD	Convert rectangular coordinates (x,y) to polar form (r,θ)	r, θ in X, Y	r, θ in X, Y (Program halt on underflow in X.)
F1 [RAD]	Convert polar coordinates (r,θ) to rectangular form (x,y)	x, y in X, Y	
DMS	Convert decimal angle to DDDDD.MMSS format***		DDDDDD.MMSS in X
F1 [DMS]	Convert DDDDD.MMSS**** angle to decimal format		Decimal angle **** in X
DMS+	Add (y+x) in DDDDD.MMSS format***	y: } DDDDD.MMSS**** x: } DDDDD.MMSS**** x: } DDDDD.MMSS****	DDDDDD.MMSS in X (Sum)****
F1 [DMS+]	Subtract (y-x) in DDDDD.MMSS format***		DDDDDD.MMSS in X (Difference)****
* Decimal angle in prevailing angular mode. ** Or equivalent in grads or radians. *** DDDDD.MMSS format. D = degrees, MM = minutes, SS = seconds. **** Magnitude of angle should not exceed 99999.99999 decimal degrees (or equivalent in radians or grads) or 99999.99999 in DDDDD.MMSS format.			

Figure 3-1. Functions Involving Angles



all 10 digits are evaluated. When converting from degrees, minutes, seconds to the decimal form of the angle, the angle is rounded to the nearest second before the conversion is made. The format for degrees, minutes, and seconds is DDDDD.MMSS. Thus, you use **DSP** **[•]** **[4]** to display this format. This function depends on the mode setting as illustrated below.

Sample Case Part 1. Convert $\frac{\pi}{7}$ radians to degrees, minutes, seconds.

Press

DSP **[•]** **[4]**
9 **[TAN]** **7** **÷**
g **[RAD]**
f **[D.MS]**

See Displayed

0.0000 Set display.
0.4488 $\pi/7$
0.4488 Set radian mode.
25.4251 Answer: $25^\circ 42' 51''$.

Sample Case Part 2. Now do the inverse, but converting back to grads (instead of radians).

Note: This method allows you to convert between angle modes, i.e. decimal degrees \Leftrightarrow radians, decimal degrees \Leftrightarrow grads, radians \Leftrightarrow grads.

Press

9 **[GRD]**
f **[+D.MS]**

See Displayed

25.4251 Set grad mode.
28.5713 Answer in grads.

Sample Case: Adding/Subtracting DDDDD.MMSS. Find the sum of $45^\circ 10' 50''$ and $44^\circ 49' 10''$.

Press

DSP **[•]** **[4]**
45.1050
ENTER+
44.4910
f **[D.MS+]**

See Displayed

0.0000 Set display.
45.1050 Key in first angle to X.
45.1050
44.4910 Key in second angle.
90.0000 Answer, $90^\circ 00' 00''$.