

Chapter 12 / Example 1

Converting between degrees and radians

The GDC will convert angles quickly from one measure to another.

- a** Convert 20° to radians. **b** Convert 56.5° to radians. **c** Convert $\frac{4\pi}{3}$ to degrees.

Press **MENU** 1 **Run-Mat** to display the Run-Matrix screen for arithmetical calculations.

Press **SHIFT** **MENU** (SETUP)

Scroll down using **▼** to Angle and change the setting to **F2** Rad.

Press **EXIT**.

Input/Output:Math
 Mode :Comp
 Frac Result :d/c
 Func Type :Y=
 Draw Type :Connect
 Derivative :Off
 Angle :Rad
 Math Line

Type 20

Press **OPTN** **F6** **►** **F5** ANGLE **F1** $^\circ$

Press **EXE**.

The GDC displays the angle, in radians, as a multiple of π .

$$20^\circ = \frac{\pi}{9}$$

20° $\frac{1}{9}\pi$
☐
 ° r g ° ' " **↵** **►**

To find this value as a decimal.

Press **S↔D**

$$20^\circ = 0.349$$

20° 0.3490658504
☐
 ° r g ° ' " **↵** **►**

Type 56.5

Press **F1** $^\circ$

Press **EXE**.

20° 0.3490658504
 56.5° $\frac{113}{360}\pi$
☐
 ° r g ° ' " **↵** **►**

To find this value as a decimal.

Press **S↔D**

$$56.5^\circ \approx 0.986$$

20° 0.3490658504
 56.5° 0.9861110274
☐
 ° r g ° ' " **↵** **►**

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Press **SHIFT** **MENU** (SETUP)

Scroll down using **▼** to Angle and change the setting to **F1**
Deg.

Press **EXIT**.

```
Input/Output:Math
Mode          :Comp
Frac Result   :d/c
Func Type     :Y=
Draw Type     :Connect
Derivative    :Off
Angle         :Deg
Deg Rad Gra
```

Press **□** to add a fraction template.

Type 4 press **SHIFT** **x10^x** (π) in the numerator and type 3 in the denominator.

Press **▶**

Press **OPTN** **F6** **▶** **F5** ANGLE **F2** r

Press **EXE**.

$$\frac{4\pi}{3} = 240^\circ$$

```
0.3490658504
56.5°
0.9861110274
4πr
3
240
□ ° r g ° ' " 1/° ▶
```