

Chapter 1 / **Example 9**

Using the sine rule to find an angle

In a triangle $\triangle DEF$, $DE = 12$ cm, $EF = 14$ cm and $\hat{D}EF = 45^\circ$.

Draw a labelled diagram and find the size of the angle $\hat{E}FD$ to the nearest degree.

Press **[MODE]**.

Use the **[←]** **[↑]** **[→]** **[↓]** keys to place the cursor on DEGREE in the Mode menu, and then press **[ENTER]** to highlight it.

Press **[2nd]** **[QUIT]** to return to the home screen.

```
MATHPRINT CLASSIC
NORMAL SCI ENG
FLOAT 0 1 2 3 4 5 6 7 8 9
Radian DEGREE
FUNCTION PARAMETRIC POLAR SEQ
THICK DOT-THICK THIN DOT-THIN
SEQUENTIAL SIMUL
REAL a+bi re^(θi)
FULL HORIZONTAL GRAPH-TABLE
FRACTIONTYPE: n/d Un/d
ANSWERS: AUTO DEC FRAC-APPROX
GO TO 2ND FORMAT GRAPH: NO YES
STAT DIAGNOSTICS: OFF ON
STAT WIZARDS: ON OFF
SET CLOCK 09/07/18 8:28PM
```

$$\sin \hat{E}FD = \frac{12 \sin 45}{14}$$

Using your GDC enter the expression $\hat{E}FD = \sin^{-1} \left(\frac{12 \sin 45}{14} \right)$ directly.

Press **[2nd]** **[SIN⁻¹]** then press **[ALPHA]** **[F1]** 1:n/d to add a fraction template.

$\sin^{-1} \left(\frac{\quad}{\quad} \right)$

Type 12 **[SIN]** 45 in the numerator

Close the parentheses and then press **[↓]** to move to the denominator.

$\sin^{-1} \left(\frac{12 \sin(45)}{\quad} \right)$

Type 14 in the denominator.

Press **[→]** and close the parentheses.

Press **[ENTER]**.

$\hat{E}FD = 37^\circ$ (to the nearest degree).

$\sin^{-1} \left(\frac{12 \sin(45)}{14} \right)$
37.30742828