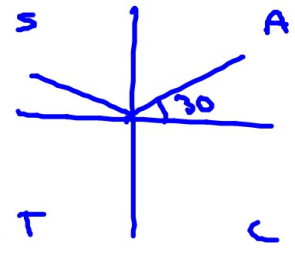


Lesson 23 Trig Functions of $n\theta$ * Graphing Conics on Graphing Calc

Ex. A: $\sin^{-1} \sin(3\theta) = 1/2$ ($0 \leq \theta < 360$)

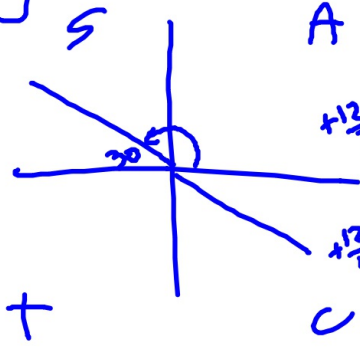
$3\theta = 30$
 150
 390
 510
 750
 870

10
 50
 130
 170
 250
 290



Ex. B: $\tan^{-1} \tan(4\theta) = -\sqrt{3}/3$ ($0 \leq \theta < 2\pi$)

$4\theta = -30$
 330
 150
 690
 510
 1050
 870
 1410
 1230



$11\pi/24$	$5\pi/24$
$23\pi/24$	$17\pi/24$
$35\pi/24$	$29\pi/24$
$47\pi/24$	$41\pi/24$

Ex C: On graphing calc: graph $x^2 + 2x + 4y^2 = 15$

$$\frac{y^2}{4} = \frac{15 - 2x - x^2}{4}$$

$$\sqrt{y^2} = \sqrt{\frac{15 - 2x - x^2}{4}} \Rightarrow y = \pm \frac{\sqrt{15 - 2x - x^2}}{2}$$

$y_1 =$
 $y_2 = -y_1$ VARS
 YVARS
 function
 y_1

Ex D: Graph: $x^2 + 4x + y^2 - 2y = 4$

$$y^2 - 2y + 1 = 4 - 4x - x^2 + 1$$

$$\sqrt{(y-1)^2} = \sqrt{5 - 4x - x^2}$$

$$y - 1 = \pm \sqrt{5 - 4x - x^2}$$