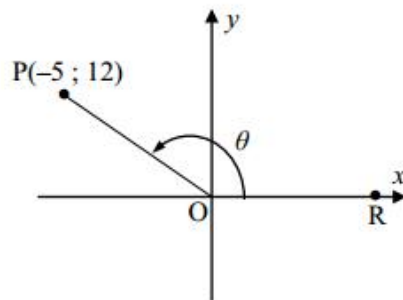


Using the CASIO FX-991ZA PLUS Scientific Calculator for Trigonometry.

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JAMES RALPH / CASIO

4.3 In the diagram, $P(-5 ; 12)$ is a point in the Cartesian plane and $\widehat{R\hat{O}P} = \theta$.



Determine the value of:

4.3.1 $\cos \theta$

(3)

$$\therefore \cos \theta = \frac{x}{r} = \frac{-5}{OP}$$

Calculate the value of OP using the Pythagoras Theorem

$$r^2 = x^2 + y^2 = (-5)^2 + 12^2 = 169$$

$$r = \sqrt{169} \therefore r = 13$$

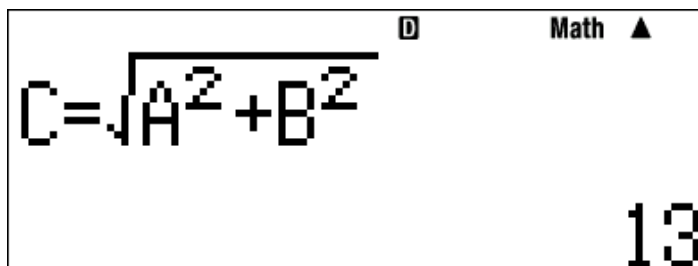
Key log: **MODE** **1**

ALPHA **hyp** **ALPHA** **CALC** **$\sqrt{\square}$** **ALPHA** **(-)** **x^2** **+** **ALPHA** **\square** **x^2**

CALC

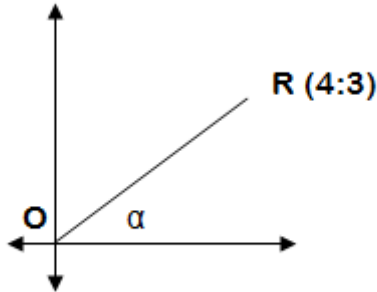
(-) **5** **=**

1 **2** **=**

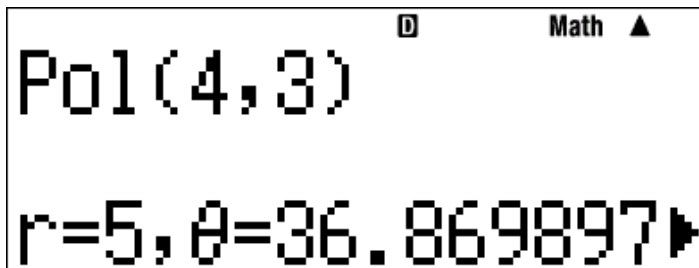


Let's take another example:

Use the sketch to calculate the length of OR and α



Key log: **SHIFT** **+** **4** **SHIFT** **)** **3** **)** **=**



$\therefore OR = 5$ & $\alpha = 36.86989765$

QUESTION 6

6.1 Consider the function $y = 2 \tan x$.

6.1.1 Make a neat sketch of $y = 2 \tan x$ for $0^\circ \leq x \leq 360^\circ$ on the axes provided on DIAGRAM SHEET 1. Clearly indicate on your sketch the intercepts with the axes and the asymptotes. (4)

Key log: **SHIFT** **MODE** **▼** **5** **1**

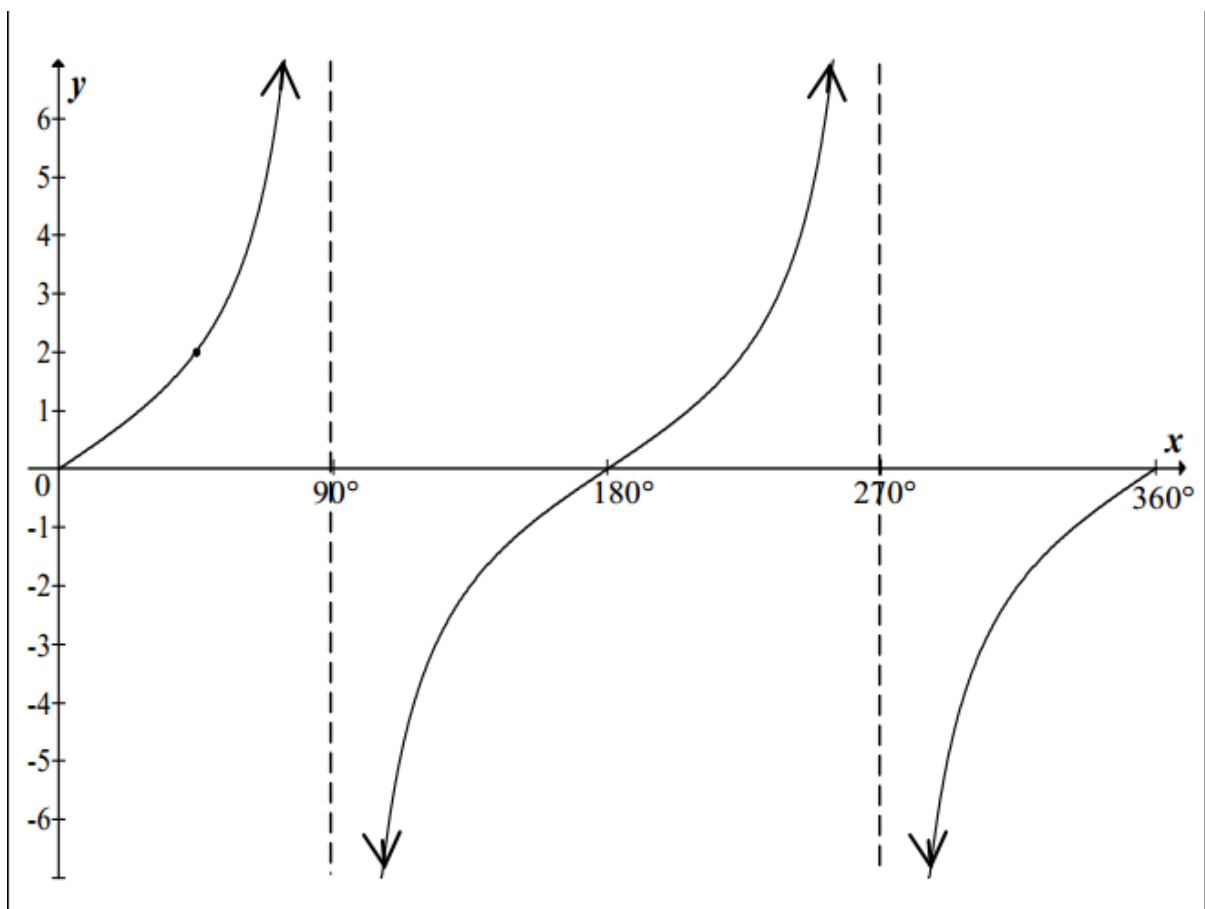
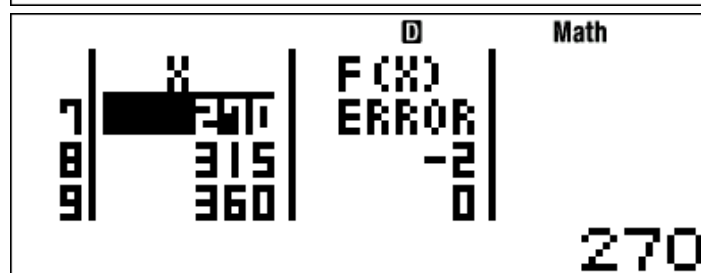
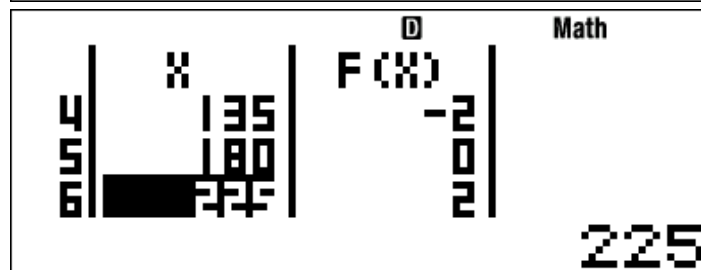
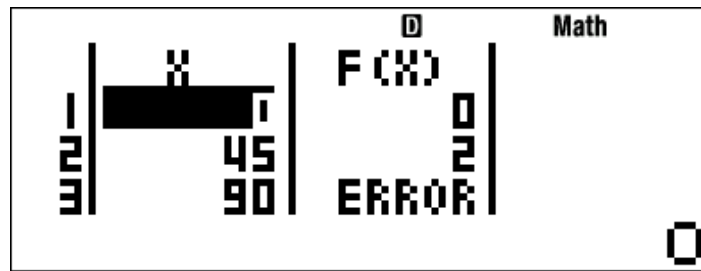
MODE **7**

2 **tan** **ALPHA** **)** **)** **=**

0 **=**

3 **6** **0** **=**

4 **5** **=**



Now draw these two graphs on your own:

Draw the graphs of the following functions on the same set of axes.

$$f(x) = \sin x \quad \text{and} \quad f(x) = \cos x \quad x \in [0^\circ, 360^\circ]$$

Indicate the point where these two graphs intersect.

