TT

$R\cos(x+\alpha)$

Expand $R\cos(x+\alpha)$ [or sin, or minus] and compare with $a\sin x + b\cos x$ to get

$\sin\alpha = \ldots$

$\cos\alpha = \ldots$

$\Rightarrow \tan\alpha = \ldots$

$R = \sqrt{a^2+b^2}$

MAX/MIN

create the baby $\cos(x+\alpha)$

baby =

baby =

baby =

check each in turn to find max/min

TRIGONOMETRY **Rcos(x + a)**

1	2	3	4	5

Find the max value of $H(\theta) = \dfrac{2}{1+(5\sin\theta - 6\cos\theta)^2}$ and find the first 2 values of $\theta^\circ > 0$ for which the maximum is obtained.

$5\sin\theta - 6\cos\theta = R\sin(\theta-\alpha)$

$= R\sin\theta\cos\alpha - R\cos\theta\sin\alpha$

$\left.\begin{array}{l}\tan\alpha = \frac{6}{5}\\ \alpha = 50.19442891\end{array}\right\}$ $= 50.2$ (3sf)

$R =$

$= \sqrt{61}$

$H(\theta) = \dfrac{2}{1+\left[\sqrt{61}\sin(\theta-50.2)\right]^2}$

Baby = 0 :

Baby = 1 :

Baby = -1 :

$\sin(\theta-50.2) = 0$

$y =$

$\theta = y + 50.2$

$\theta =$