**8B Finding Cartesian Equations with Trig**

1. A curve has parametric equations:

$x=sint+2$, $y=cost-3$, $t\in R$

1. Show that a Cartesian equation of the curve is given by:

$$\left(x-2\right)^{2}+\left(y+3\right)^{2}=1$$

1. Hence, sketch the curve…
2. A curve has parametric equations:

$x=sint$, $y=sin2t$, $-\frac{π}{2}\leq t\leq \frac{π}{2}$

1. Find a Cartesian equation of the curve in the form $y=f(x)$, $-k\leq x\leq k$, stating the value of the constant $k$.
2. Write down the range of $f(x)$
3. A curve has parametric equations:

$x=cot⁡(t)+2$, $y=cosec^{2}t-2$

$$0<t<π$$

1. Find the equation of the curve in the form $y=f(x)$ and state the domain of x for which the curve is defined

b) Hence, sketch the curve