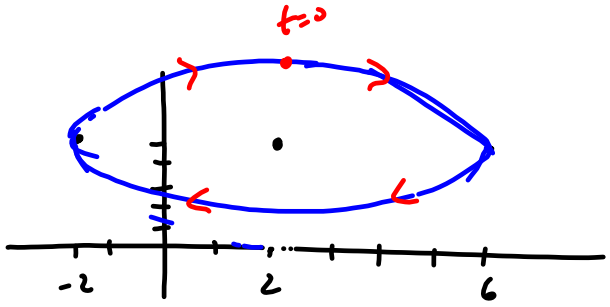
Example: Find the Cartesian equation of $x = 2 + 4\sin(t)$, $y = 5 + 2\cos(t)$. Sketch the graph.

$x-2 = 4\sin(t)$ $\quad$ $y-5 = 2\cos t$

$\frac{x-2}{4} = \sin(t)$ $\quad$ $\frac{y-5}{2} = \cos t$

$\left(\frac{x-2}{4}\right)^2 + \left(\frac{y-5}{2}\right)^2 = 1$ ellipse



$y = 5$

$\left(\frac{x-2}{4}\right)^2 = 1$

$(x-2)^2 = 4^2$

$x-2 = \pm 4$

$x-2=4$ $\quad$ $x-2=-4$

$x=6$ $\quad$ $x=-2$