

Q1) Consider the parametric equations $x = t^2 + 1$, $y = t^2 + t$.

Find the equation of the tangent line to the curve at $t = 2$.

Q2) Sketch the curve with $r = \sin \frac{\theta}{2}$, $0 \leq \theta \leq \pi$ by first sketching the graph of r as a function of θ in Cartesian coordinates.