Problem statement a) Suppose \( f(x) = 3^x \). Plot \( y = f(x) \) in the square window defined by \(-1 \leq x \leq 1\) and \(0 \leq y \leq 2\). Also plot the secant lines connecting \((0, f(0))\) and \((0 + h, f(0 + h))\) for \(h = .5\) and \(h = .25\) in the same window. Give a table of values of the slope of the secant lines connecting \((0, f(0))\) and \((10^{-j}, f(10^{-j}))\) when \(j\) is a positive integer ranging from 1 to 5. What is an equation of the line tangent to \(y = 3^x\) at \((0, 1)\)?

b) Suppose \( g(x) = 6x \arctan\left(\frac{\ln x}{x^3 + 2}\right) \). Plot \( y = g(x) \) in the square window defined by \(0 \leq x \leq 2\) and \(-1 \leq y \leq 1\). Also plot the secant lines connecting \((1, g(1))\) and \((1 + h, g(1 + h))\) for \(h = .5\) and \(h = .25\) in the same window. Give a table of values of the slope of the secant lines connecting \((1, g(1))\) and \((1 + 10^{-j}, g(1 + 10^{-j}))\) when \(j\) is a positive integer ranging from 1 to 5. What is an equation of the line tangent to \(y = 6x \arctan\left(\frac{\ln x}{x^3 + 2}\right)\) at \((1, 0)\)?