1. Find the derivative of each function

   (a) $f(x) = e^{\sec(x)}$

   (b) $g(x) = \tan(3^x)$

   (c) $h(x) = \ln(x^2 + 1) \, \cos\left(\dfrac{e^{3x}}{2x + 1}\right)$

2. Find the second derivative of $f(x) = e^{\sec(x)}$

3. Find an antiderivative of each function

   (a) $f(x) = 3x^2 \cos(x^3)$

   (b) $g(x) = 2x \cos(e^x) - x^2 \sin(e^x)e^x$

   (c) $h(x) = \dfrac{2x + 3}{x^2 + 3x + 5}$