1. Find the derivative of each function (a) $f(x) = e^{x^2}$

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

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

- 2. Find the second derivative of $f(x) = \sec(e^x)$
- 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)
$$h(x) = \frac{2x+3}{x^2+3x+5}$$

Math 101 Calc I (T. Ratliff)

October 3, 2018