1. \( \lim_{x \to 0} \frac{\tan(x)}{5x} = \)

2. Take the derivative of these functions. Do not simplify.

   (a) \( y = \frac{\sin(2x)}{1 + \cos(x^2)} \)

   (b) \( y = \sqrt{1 + 2\tan(x)} \)

   (c) \( y = \sec^3(x^2) \)