

Math 16a Worksheet 1: The Secant Method

September 11, 2007

Consider the following function:

$$f(x) = \begin{cases} -x + 2 & x < 2 \\ x - 2 & x \geq 2 \end{cases}$$

1. Graph $f(x)$.
2. Use the secant method to find the slope of the tangent to $f(x)$ at the point $(3, 1)$.
3. Use the secant method to find the slope of the tangent to $f(x)$ at the point $(0, 2)$.
4. Show that $f(x)$ has no tangent at the point $(2, 0)$.
5. Do you know of another, more concise way of writing the function $f(x)$?