Name: _____ I.D. # _____ Sr. # _____

1. Given the function $f(x) = \begin{cases} 1-x & if & x < -1 \\ -x^2 - 3x & if & -1 \le x \le 0 \\ \tan x & if & x > 0 \end{cases}$, write down $f'(x)$ _very carefully_.

2. Given the function $f(x) = \dfrac{1}{x+1}$, find $f'(1)$ using the definition of the derivative (i.e. using limits).