Problem 1 (20 points)
1. (7 points each) For each of the following expressions, identify the value of x for which there is subtraction of nearly identical numbers and find an alternate form that avoids the problem:
(a) f(x) = (1 −sec (x))/tan^2(x)
(b) f(x) = 1/(1+x) - 1/(1-x)

a) x->0 ; f(x) = 1/(1+sec(x))
b) x->0 ; f(x) = x/(1+x) - x/(1-x)

2. (6 points) Evaluate the quantity x√(x^2 + 3.07) − x^2 to 3 decimal places for x = 9^10 .
Use : f(x) = 3.07/(x + √(x^2+3.07))
f(9^10) = 4.40233701×10^−10