

No books, notes or graphing calculators. Please turn off your cell phones. Show ALL your work.

(10) 1. (a) Find the Taylor series for the function $f(x) = \ln(1 + x^2)$ based at $a = 0$.

(b) Using quadratic approximation for the function $f(x)$ above, estimate $\ln(5/4)$. Leave your answer in exact form.