

MA-161 (F,06)
Problem 1b and c

1. Below are my graphs of $y = \tan x$ and $y = \arctan x$. (I hope they're what you drew! **Note: I gave the graph of $y = \tan x$ below -- but I'm not going to give it here.**) Use my graphs to answer (b) and (c) below. You must show all your work. Do your computations, and give your answers, below the line.

b. On the graph of $y = \tan x$, let A be the point where $x = \pi/4$, and let B be the point where $x = -\pi/4$. Give the exact slope of the line determined by the two points A and B.

c. On the graph of $y = \arctan x$, draw accurately (!) the tangent line to the graph at the point $(1, \arctan 1)$. Then estimate its slope. You must show what you did to get your estimate.


