

Homework 13 To be turned in at the Final

1. Find the derivative of  $\cos(x)$  from the definition of the derivative.
2. Using the quotient rule find the derivative of  $\tan(x)$ .
3. Use the chain rule to find the derivative of  $\arcsin(x)$ .
4. Use the fundamental theorem of calculus to find  $\int_0^1 \frac{1}{1+x^2}$ .