

Prob Due Feb 4 (Do not hand in, you will not lose credit if you did the wrong) problems

7.2*

28) $\frac{d}{dx} \ln(x + \ln x)$; 36) $\frac{d}{dx} \ln \ln \ln x$

60) $\int_e^6 \frac{dx}{x \ln x}$

74) $\frac{d}{dx} \left(\sqrt[4]{\frac{x^2+1}{x^2-1}} \right)$ use logarithmic differentiation

7.3*

44) Find the equation of the tangent line to $y = \frac{e^x}{x}$ at $(1, e)$

Prob Due Feb 11

7.4* 24) $\frac{d}{dx} 10^{\tan x}$

36) $\frac{d}{dx} (\ln x)^{\cos x}$

40) $\int (x^5 + 5^x) dx$

7.5

18 a) Prove $\sin^{-1} x + \cos^{-1} x = \pi/2$

b) Use Part a) to prove $\frac{d}{dx} (\cos^{-1} x) = -\frac{1}{\sqrt{1-x^2}} \quad -1 < x < 1$

20) Prove $\frac{d}{dx} \sec^{-1} x = \frac{1}{x\sqrt{x^2-1}}$