

Math 181 Section 4 Fall 2007

Exam II covers Sections 3.1-3.8  
Study HW and practice problems  
on this sheet.

Section 3.1 ① Find the eqn of the tangent  
line and normal line to  
the curve  $y = x\sqrt{x}$  at  $(1, 1)$ .

Section 3.2 ① If  $f(x) = \sqrt{x}g(x)$  where  
 $g(4) = 2$  and  $g'(4) = 3$ , find  $f'(4)$

② Let  $y = \frac{x^2 + x - 2}{x^3 + 6}$ . Find  $\frac{dy}{dx}$

③ Find an eqn of the tangent  
line to the curve  $y = e^x / (1 + x^2)$   
at  $(1, \frac{e}{2})$

Section 3.3 Exercises # 1

Section 3.4 Exercises # 14, 15, 26

Section 3.5 Exercises # 33, 41-44

Section 3.6 ① Find  $y'$  if  $x^3 + y^3 = 6xy$   
then find tangent line at  $(3, 3)$ .

Section 3.7 Exercises # 5, 6, 11, 14

Section 3.8 Exercises # 11, 13, 23