

Math 16B
Vogler
Worksheet 2

1.) Differentiate.

a.) $f(x) = e^{\sin x} + \cos(e^x)$

b.) $f(x) = [e^{3x} + e^{-3x}]^5$

c.) $g(x) = e^x \cdot \sec 3x$

d.) $y = 20 + 7e^x + \tan 2x$

e.) $y = x - e^{5+x \cot x}$

f.) $y = x^e + e^x + e^{-x}$

g.) $f(x) = e^{e^{7x}}$

2.) Solve $y' = 0$ and $y'' = 0$ for x .

a.) $y = x^2 e^{-x} - x e^{-x}$

b.) $y = e^{-(x-1)^2}$

3.) Find an equation of the line which is perpendicular to the graph of $f(x) = 5 + \cos 2x - 4e^{5 \tan 3x}$ at $x = \pi/3$.