

MA 122 Homework– Tuesday, July 5

For (a)-(c), compute the derivatives of the functions (using any method).

(a) $y = 2 \ln(5x) + e^{2x-3}$

(b) $f(z) = (\ln z)^2 + \ln(z^2)$

(c) $g(x) = e^{-5x} \ln(5x)$

(d) Find the equation for the tangent line to $f(x) = \ln\left(\frac{x}{2}\right) + 9x$ at $x = 2$.

Sketch $f(x)$ and the tangent line on the same graph.

(e) Do problem 9 in section 4.6

(f) Do problem 31 in section 4.6