

For full credit you must show your work. Partial credit may be given for incorrect solutions if sufficient work is shown.

Compute the derivatives for the following functions. (3 + 3 pts)

1.

$$f(x) = (x^4 + 6x)^8$$

2.

$$f(x) = \ln(2e^x + 1)$$

3. Use implicit differentiation to find y' , then determine the slope of the tangent line at the point $(6, 1)$. (4 pts)

$$xy + y^2 = 7$$