

#50 quadratic of best fit.

[Look at #49 for hints on tangent line.] Same idea as 3.2 #45 just a different function.

Quadratic $g(x) = ax^2 + bx + c$ $f(x) = \ln(x)$

Meet at $x = 1$ $g(1) = f(1)$

Tangent at $x = 1$ $g'(1) = f'(1)$

Same curve at $x = 1$ $g''(1) = f''(1)$

Write all three equations then solve for the 3 parameters, a, b, and c.

64. You can't write the inverse function of $f(x) = 2x^5 + 3x^3 + x$. Use the concept discussed in class to find the derivative at the point.
77. "a constant multiple" is the coefficient of the function. Find a function where the coefficient changes when you take the derivative, yet you still see the same function.
Given $f(x)$ where $f'(x) = kf(x)$ What function does this?
80. Start with the inverse derivative using symbols. Compare to the symbols given.
Also what function has a derivative of 1?
81. Take the second derivative don't use a graph.