

1. What is the formula we found for the derivative of $\log_b(x)$?
2. At what x coordinate on the graph of $y = \log_2(x)$ is the slope exactly 1?
3. Suppose $f'(a)$ exists for some function f . What is the “new, improved” formula we developed in class for approximating $f'(a)$?
4. What is the formula we've developed for $\frac{d}{dx} b^x$?
5. Using the answer to problem (4), what is the slope of the graph of the function $f(x) = 3.5^x$ at $a = 2.5$?
6. Using $h = 0.01$, what is the approximation given by the formula in problem (3) to the answer to problem (5)?