

Name _____

Homework 15
section 3.2

Be sure to use only algebra and material through section 3.2 for this assignment.

1. (2) Find the derivative of $f(x) = x^\pi + \pi^x$.

2. (3) Find $\frac{dw}{dx}$ for $w = \frac{3^x}{3} + 5^{x/2}$.

3. (6) Find the equation of the *normal* line to the graph of $f(x) = e^x - 1$ at the point where it crosses the x -axis. (The normal line is perpendicular to the tangent line).

4. (3) Find $f'(1)$ for $f(t) = (\ln 3)3^t$.

5. (6) Find the equation on the tangent line to the graph of $g(x) = 2^x + 2\sqrt{x}$ at the point $(1, 4)$.