

Math 30

Date: \_\_\_\_\_

Derivative Gateway Test

Name: \_\_\_\_\_

Find the derivative of each of the following functions. Do not simplify your answers.

*Be careful when writing answers, since all errors count, including missing parentheses!* **No notes or calculators allowed.**

**Time Limit: 20 minutes.**

5.  $h(t) = (t^2 - 6t)^4 - t + \sqrt{2}$

38.  $g(x) = \sqrt{x} \ln(x - 3)$

60.  $f(s) = \frac{s + 1}{(s + 2)^5}$

75.  $f(x) = 4x - \sqrt{\frac{3}{x}}$

100.  $f(t) = e^{\sin(\pi t)}$

115.  $f(x) = \sqrt{\ln x} + ex^2$

125.  $P(t) = P_0(1.07)^t$ , where  $P_0$  is a constant