Math 109, SAMPLE Quiz 1: Derivatives

Name: _____ **Section:** _____

You have 10 minutes to complete the following problems, without using your notes, book, or calculator.

1. Suppose $h(-3) = 5$ and $h'(-3) = 4$. What is the tangent line to the graph of $h(x)$ at $x = -3$?

2. Differentiate.

   (a) $\frac{d}{dt}(\sqrt[5]{t} + \sqrt[5]{7}) \;=$

   (b) $\frac{d}{dx}\, x^{2/3}(x+7) \;=$

   (c) $\frac{d}{dx}\, x(x+7)^{11} \;=$

   (d) $\dfrac{d}{du}\ \dfrac{4u}{3u-7} \;=$

   (e) $\frac{d}{dx}\sqrt{x^3 + x} \;=$