Solutions to Quiz 7

MATH 139-01 and -02
Monday, September 29, 2003

Be sure to **show your work**. Unsupported answers receive no credit.

1. Let \( g(t) = (0.8)^t \). Use a small interval to estimate \( g'(2) \).

   **Solution:** I will use a width of 0.001:
   \[
   g'(2) \approx \frac{0.8^{2.001} - 0.8^2}{2.001 - 2} \approx -0.143.
   \]

2. Consider the graph shown. At which of the given points is the slope positive? Negative? Zero?

   The lowest and highest points both have a positive derivative since the function is increasing in both of those places. The derivative at the middle point is 0 since the tangent line there is horizontal.