Quiz #3, Friday September 18
Math 221 Lecture EL1

Instructions. Be sure to show your work and explain your reasoning where necessary for full credit. This Quiz is just 3 problems, but is 3 pages long because there are some big pictures at the end! Don’t forget to write your name!

Problem 1 (2 points total)

If a rock is thrown upward on the planet Mars with a velocity of 10 meters per second, its height (in other words, its position) in meters after \( t \) seconds is given by the equation

\[
H(t) = 10t - 1.86t^2.
\]

Find the velocity of the rock after 1 second.

Problem 2 (6 points total- 3 points each item)

Find \( h'(x) \) for the given function \( h(x) \):

(a) \( h(x) = \frac{x}{3 + \sqrt{x}} \)

(b) \( h(x) = x^2e^x \)
Problem 3 (2 points total)

(Multiple Choice) For each function $f(x)$ in the two parts of Problem 3 choose the graph (a) or (b) that represents $f'(x)$. You don’t need to justify your answer or show work-this is a multiple choice problem so no partial credit will be given.

Problem 3 Part 1:

Problem 3 Part 2 (next page!!!):
Figure 3: A Graph of $f(x)$ for Problem 3 Part 2

(a) Choice (a) for Problem 3 Part 2

(b) Choice (b) for Problem 3 Part 2