

NAME: \_\_\_\_\_

YOUR GRADE IS BASED ON THE PROCESS AS WELL AS THE FINAL RESULT. SHOW ALL YOUR STEPS CLEARLY SO YOU WILL BE ELIGIBLE FOR THE MOST PARTIAL CREDIT. YOU MAY USE A CALCULATOR, BUT NO NOTES, BOOKS, OR OTHER STUDENTS. GOOD LUCK!

1.) (5 pts.) Using the table of values below, estimate  $f'(2.2)$ .

$x$	2.0	2.02	2.2
$f(x)$	7	7.059	7.5

2.) (5 pts.)

a.) (3 pts.) Write out the definition of  $f'(x)$ .

b.) (2 pts.) Why can't the limit in part (a) be evaluated by plugging  $h = 0$  into the difference quotient?