

Fourth Exam

Monday, November 30, 2015

This exam is closed book, but you may use calculators. Make sure your name is on all pages. Show all work, and show it in a logical and organized manner. Each entire problem is worth 25 points. Your work should be on your own paper, and you may keep this exam sheet.

1. Consider a function f with $f(1) = 3,300$ and $f'(t) = 3t^2$.
 - (a) What is the total change in f between $t = 1$ and $t = 10$?
 - (b) Find $f(10)$.
2. A fancy computer was bought for \$3,500.00. For tax purposes, the computer is assumed to depreciate linearly over a period of 5 years, so its value t years after it is bought is $V(t) = 3500 - 700t$. What is the average value of the computer in the five years after it was bought?
3. Write down an expression in x and an arbitrary constant C that is equal to $\int 3x^2 - 2x dx$.
4. A company is expected to earn \$50,000 per year, at a continuous rate for 8 years, and invests these earnings into an activity with a rate of return of 7%, compounded continuously. How much did these investments add to the worth of the company over those 8 years?