

Quiz 5

Student's name: _____

Math 0220 (evening) Spring 2011

TA's name: _____

1. [5 points] Find $f(x)$ if $f''(x) = 12x - \cos x + 4$.

2. [5 points] A rectangular box with a square base and no top is to have a volume of 12 cubic inches. Find the dimensions for the box that require the least amount of material.

3. [5 points] Find the average value of the function $f(x) = 1/x$ on the interval $[1, 4]$.

bonus problem [5 points extra] Find the derivative of the function

$$g(x) = \int_{\cos x}^{x^2} \ln t \, dt.$$