

Quiz Questions 1 for Mathematics 224
Introductory Analysis II - Spring 2001
Material Covered: Sections 5.3, 5.4 of workbook and text
For: Friday, 26th January

This is a 15 minute quiz, worth 5% and marked out of 5 points. The total possible points awarded for each question is given in square brackets at the beginning of each question. Anything that can fit on one side of an $8\frac{1}{2}$ by 11 inch piece of paper may be used as a reference during this quiz. A calculator may also be used. No other aids are permitted.

Name (please print): _____ . ID Number: _____
last first

1. Consider $f(x) = 2x^2 + x^{-1}$ and $g(x) = 1$.

- (a) [2 points] Approximate $\int_1^6 f(x) dx$; specifically, calculate
 $\sum_{i=1}^5 f(x_i)\Delta x =$ (circle closest one) **88.28 / 99.28 / 112.28 / 128.28 / 139.28**
- (b) [1 point] Calculate the (exact) average value of $f(x) = 2x^2 + x^{-1}$ over $[1, 6]$.
 $y_{av} =$ (circle closest one) **29.03 / 32.33 / 42.28 / 48.22 / 52.38**
- (c) [2 points] $\int_1^6 (f(x) - g(x)) dx =$ (circle one)

$$\left[\frac{3}{2}x^3 + \ln x - x\right]_1^6$$

$$\left[\frac{2}{3}x^3 + \ln x - x\right]_0^6$$

$$[4x - 2x^{-2} - 0]_1^6$$

$$\left[\frac{2}{3}x^3 + \ln x - 1\right]_1^6$$

$$\left[\frac{2}{3}x^3 + \ln x - x\right]_1^6$$

1.

112.28

$$\sum_{i=1}^5 f(x_i)\Delta x = f(1) \cdot 1 + \cdots + f(4)f(4), \text{ use lists in calculator}$$

29.03

$$\text{fnInt}(2x^2 + x^{-1}, X, 1, 6)/5$$

(v)

$$\left[\frac{2}{3}x^3 + \ln x - x \right]_1^6$$