Simon Fraser University

MATH 152
Term Test I
(V.2)
June 2, 2004

Name (*please print*): _____
Last name *Given names*

Student Number: _____

Signature: _____

NOTES:
- **Show all workings. No credit will be given for unsupported answers.**
- **The use of *any* calculator is strictly prohibited.**
- **You have 50 minutes to complete the examination.**
- **No notes or aids are permitted during the examination.**
- **Ensure that your examination contains 5 pages (including this cover page) with 4 questions.**

DO NOT WRITE BELOW THIS LINE

Question	Marks	Score
#1	7	
#2	10	
#3	4	
#4	5	
TOTAL	26	

1. Evaluate the following: [10]

a) $\int_4^9 \frac{1}{\sqrt{t}e^{\sqrt{t}}} dt$

b) $\int \frac{\sec^2 z}{\tan z} dz$

c) $\frac{d}{dx}\int_{x^2}^{2} \sqrt[3]{1-t^3}\, dt$

2. a) Find an expression (in terms of n only) for the approximate area under $f(x) = 3x^2 + 2$ between $x = 1$ and $x = 4$ using n equal subintervals. Choose the sample point (x_i*) to be the right-hand endpoint of the subinterval.

[5]

b) Use a limit to find the *exact* area in part (a). (*No credit will be given for simply using an antiderivative*)

[2]

3. Use Simpson's Approximation (with $n = 4$) to approximate $\int_0^2 x \ln(x+1)\, dx$.

[4]