

**Math 174 02,
the course of Dr. Mihailovs**

Midterm 1

September 18, 1998

Name _____

Problem	1	2	3	4	5	6	7	8	9	Extra	Total
Points											

1. Find f^{-1} for $f(x) = 3x + 2$.

2. Prove that $f(x) = x^7 + x + 1$ is one-to-one.

3. Find $g'(a)$, where g is the inverse function of $f(x) = x^7 + x + 1$, $a = 3$.

4. Find $f'(x)$ for $f(x) = e^{3x+2}$.

5. Evaluate $\int e^{\cos x} \sin x \, dx$.

6. Find $f'(x)$ for $f(x) = \frac{e^{2x}\sqrt{3x+2}}{\sqrt[3]{x^2+2x+3}}$.

7. Evaluate $\int_0^{\pi/2} \frac{\sin x}{1+\cos x} dx$.

8. Evaluate $\int \frac{e^{2x} dx}{\sqrt{1-e^{4x}}}$.

9. Evaluate $\int \frac{e^{2x} dx}{\sqrt{1+e^{4x}}}$.