

MATH 161 EXAM 4, Fall 2008

In problems 1-5, find the given integrals		Name:	Score	
1.	a) $\int (x^3 + 1)^2 dx$	b) $\int \sqrt{2t} dt$	1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
Ans: _____.		Ans: _____.		
2.	a) $\int (x + 1)/x dx$	b) $\int (x - 1)e^{x^2 - 2x} dx$	9	
			10	
			Tot	
Ans: _____.		Ans: _____.		
3.	a) $\int \sqrt{y} \cos(y\sqrt{y}) dy$	b) $\int \frac{\cos x}{\sin^3 x} dx$		
			Ans: _____.	
4.	a) $\int \frac{1}{x(1 - \ln^2 x)} dx$	b) $\int_0^2 x(4 - x^2)^{3/2} dx$		
			Ans: _____.	
5.	a) $\int \sec^3 t \tan t dt$	b) $\int \frac{x}{\sqrt{x + 9}} dx$		
			Ans: _____.	
Extra Space				

M161Ex4F06	Name:	
6.	a) Find: $\frac{d}{dx} \int_1^{\sqrt{x}} \frac{e^{-t^2}}{t^2} dt$ Ans: _____	b) Find $\frac{dx}{dy}$, given: $y = x^2 + \cos x$ Ans: _____
7	Use logarithmic differentiation to find dy/dx a) $y = x^3 e^x \sqrt{x+4}$ Ans: _____	b) $y = 2^{\sin x}$ Ans: _____
8.	Find the area bounded by $y = x^2$ and $y = 4x - x^2$. a) Set up the integral. Ans: _____	b) Compute the integral. Ans: _____
9.	The region bounded by $y = x^2$, $y = 2 - x$, and $y = 0$ is rotated about the y -axis. Find the volume generated. a) Sketch the region and set up the integral. Ans: _____	b) Compute the integral. Ans: _____
10.	The region bounded by $y = x^2$ and $y = 2x$, is rotated about the y -axis. Find the volume generated. a) Sketch the region and set up the integral. Ans: _____	b) Compute the integral. Ans: _____
Comments about this test:		