

MATH 162 FINAL EXAM, SPRING 2010

Simplify answers. No work, no credit		Name:	Score		
1.	a) Find: $\int x \sinh 5x \, dx$.	b) Find: $\int \ln 3z \, dz$.	1	11	
			2	12	
			3	13	
			4	14	
			5	15	
			6	16	
			7	17	
			8	18	
Ans:_____.		Ans:_____.		9	19
2.	a) Find: $\int \cos^2 3x \, dx$	b) Find: $\int \tan^3(2y) \sec(2y) \, dy$.	10	20	
			Tot		
			Ans:_____.		
3.	a) Find: $\int \frac{x}{1+x^4} \, dx$.	b) Find: $\int_0^\infty \frac{1}{(x+1)^3} \, dx$.	Ans:_____.		
			Ans:_____.		
4.	Find: $\int \frac{1}{t^2 - 4t} \, dt$.	Ans:_____.			
		Ans:_____.			
5.	Find: $\int \frac{1}{\sqrt{25-y^2}} \, dy$.	Ans:_____.			
		Ans:_____.			
Extra Space					

Fin162S10p4.	Name:
16. a) Sum the series: $\sum_{n=2}^{\infty} \frac{3^n}{4^{n+1}}$. Ans: _____ test.	b) Test for convergence: $\sum_{n=1}^{\infty} \frac{\sin n}{(n+1)^2}$. C D by: _____ test.
17. Test for absolute or conditional convergence: $\sum_{n=1}^{\infty} \frac{(-1)^n n}{n^2 + 4}$. CC CA D by: _____ test .	
18. Test for absolute or conditional convergence: $\sum_{n=1}^{\infty} \frac{(-1)^n 3^n}{(n+2)!}$. CC CA D by: _____ test .	
19. Find the radius of convergence and the interval of convergence: $f(x) = \sum_{n=1}^{\infty} \frac{(2-x)^n}{3^n(n+4)}$. a) Radius of Convergence b) Interval of Convergence. Ans: _____ .	
20. Find the Maclaurin series of $f(x)$ and use the result to compute the given integral to 3 decimals: a) $f(x) = \frac{\sin x^2}{x^2}$. b) $\int_0^{1/2} \frac{\sin x^2}{x^2} dx$ Ans: _____ .	