

MATH 261 EXAM 2, Fall 2001

Simplify all answers. Show your work!		Name:	Score		
1.	Let $f(x, y, z) = 4x^2 - y^2 - z^2$ a) Find $f(-3, 2, 4)$		b) Describe the level surfaces	1	
				2	
				3	
				4	
				5	
				6	
				7	
Ans:_____.		Ans:_____.			
2.	Let $f(x, y) = \tan^{-1}(y/x)$. Find the partial derivatives: a) f_x		b) f_y	8	
				9	
				10	
				Tot	
Ans:_____.		Ans:_____.			
3.	Show that $\lim_{(x,y) \rightarrow (0,0)} \frac{3xy^2}{x^3 + 2y^3}$ does not exist.				
4.	Let $u = 4 \sin(x - ct)$ a) Find u_{tt}		b) Show that u satisfies the wave equation.		
				Ans:_____.	
5.	Given that $y^2 - x^2z = z^3$, Find a) dz		b) z_x and z_y		
				Ans:_____.	

