

MATH 162 EXAM 3, Fall 2006

		Name:	Score	
1.	Eliminate the parameter and find the Cartesian equation: a) $x = 1 - 5t, y = 3 + t.$	$x = t^2, y = t^3.$	1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
Ans:_____.		Ans:_____.		
2.	Eliminate the parameter and find the Cartesian equation: a) $x = 2 + 4 \cos t, y = 1 - 5 \sin t.$	b) $x = 3 \cosh t, y = 2 \sinh t.$	9	
			10	
			Tot	
Ans:_____.		Ans:_____.		
3.	Given the parametric equations: $x = t \sin t, y = t \cos t$, find: a) dy/dx	b) The equation of the tangent at $t = \pi$.		
			Ans:_____.	
4.	Let $x = t^3 - 3t^2$, and $y = t^2 - 2t$. Find the points where the tangent is: a) Horizontal.	b) Vertical.		
			Ans:_____.	
5.	Identify the names of the graphs described by the following equations:	a) $x = 4 + t, y = 1 - 3t^2.$ Ans:_____.	b) $x = 3 \cosh t, y = 3 \sinh t.$ Ans:_____.	
				c) $x^2 - 4y^2 = 4.$ Ans:_____.
		e) $r = 2 \cos 3\theta.$ Ans:_____.	f) $r = 1 - \sin \theta.$ Ans:_____.	
Extra Space				

		Name:
6.	Find the length of the curve $x = e^t + e^{-t}$, $y = 2t - 1$, $0 \leq t \leq 1$.	Ans:_____.
7.	Convert to Cartesian coordinates: a) $r = 4$.	b) $r = 4 \sin \theta$. Ans:_____.
8.	The graph of $r = 1 - \cos \theta$ is a cardioid. Set up and simplify but do not evaluate the integral for the: a) Area.	b) Arc length. Ans:_____.
9.	Find the center, vertices and foci of the conic: $9x^2 - 4y^2 - 72x + 8y + 176 = 0$.	Vertices_____Center_____ Foci _____.
10.	Given the conic $r = 5/(2 + 2 \sin \theta)$: a) Find the eccentricity and the directrix.	b) Identify and sketch the conic. Eccentricity:_____Directrix_____ Conic: _____.