

Math 266B Section A01 (Barsamian) Group Work 2: Differential Equations

- 1) Determine whether each differential equation is pure-time, autonomous, both, or neither. Circle the answer.
- 2) Write “yes” or “no” in each cell to indicate whether the function is a solution of the differential equation.

		Differential Equations				
		(a)	(b)	(c)	(d)	
		$\frac{dy}{dt} = \sin(3t - 1)$	$\frac{dy}{dt} = 2.1$	$\frac{dy}{dt} = 2ty + \frac{y}{t}$	$\frac{dy}{dt} = t^2 + 1$	
		pure time autonomous both neither	pure time autonomous both neither	pure time autonomous both neither	pure time autonomous both neither	
Functions	(1)	$y(t) = te^t + e^t$				
	(2)	$y(t) = \frac{t^3}{3} + \frac{1}{t}$				
	(3)	$y(t) = te^{(t^2)}$				
	(4)	$y(t) = 2.1t - 3$				
	(5)	$y(t) = 2.1$				
	(6)	$y(t) = 2.1t$				
	(7)	$y(t) = \cos(3t - 1)$				
	(8)	$y(t) = 1 + \frac{\cos(3t - 1)}{3}$				

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