MTH 291, Quiz #5, Fall 2017 Name_____

Instructions: Show all work. Use exact answers unless specifically asked to round.

1. Consider the solutions to a second order differential equation in the table below, and the given forcing function. What is the appropriate Ansatz for the method of undetermined coefficients?

	$y_1(x)$	$y_2(x)$	$f(x)$	$Y(x)$
a.	e^x	e^{6x}	$\frac{1}{2}\sin(4x)$	
b.	$\sin(2x)$	$\cos(2x)$	$2xe^x + \cos x$	
c.	$e^{-x}\cos 3x$	$e^{-x}\sin 3x$	$9\sin 3x$	
d.	e^{-2x}	e^{-x}	$0.1e^{-2x}$	

2. Consider the differential equation $y'' + 5y' + 6y = 3\sin 2t - \cos 2t$. Find the particular solution to the non-homogenous differential equation. Final all undetermined coefficients.