

Method of Undetermined Coefficients  
Math 285, Spring 2012

**Instructions:** For each set of solutions and forcing term, find the Ansatz you would use in the method of undetermined coefficients.

#	$y_1$	$y_2$	$g(t)$	Ansatz
1	$e^{2t}$	$e^{3t}$	$\sin(t)$	
2	$e^{-t}$	$e^{2t}$	$e^t$	
3	$\frac{1}{t}$	$\frac{\ln t}{t}$	$t$	
4	$e^{-t}$	$te^{-t}$	$e^{-t}$	
5	$e^{-2t} \sin 4t$	$e^{-2t} \cos 4t$	$e^{-2t}$	
6	$e^t \sin t$	$e^t \cos t$	$\cos t$	
7	$e^{-t} \sin t$	$e^{-t} \cos t$	$e^{-t} \cos 2t$	
8	$e^{-5t} \sin \frac{1}{2}t$	$e^{-5t} \cos \frac{1}{2}t$	$e^{-5t} \sin \frac{1}{2}t$	
9	$t$	$t^2$	$t$	
10	$\sin(t)$	$\cos(t)$	$\csc(t)$	
11	$\sin(2t)$	$\cos(2t)$	$\cos(2t)$	
12	$e^{2t}$	$e^{3t}$	$\sin t + e^{2t}$	
13	$e^{-t}$	$e^{2t}$	$t^4 + e^{-t} \sin \sqrt{3}t$	
14	$e^t \sin t$	$e^t \cos t$	$te^t + 4$	
15	$e^t \sin t$	$e^t \cos t$	$t + e^t \sin t$	
16	$e^{-2t} \sin 4t$	$e^{-2t} \cos 4t$	$e^{-2t} + \cos 4t + e^{-2t} \sin 4t$	
17	$e^{-t}$	$e^{2t}$	$\cosh t$	