Name:		Take-Home Exercise
J#:	Team:	

Standard:	Assigned:	Due:	Mark:
AM	11-28	12-04	

Available to students with credit for S3 by 11-28.

Consider a dual mass-spring system where the inner mass is 2kg, the outer mass is 1kg, and the inner spring has constant 4N/m, and the outer spring has constant 2N/m. The inner mass is moved 2m outward from its natural position, while the outer mass is moved 1m outward from its natural position. Both masses are then released from rest.

Find two ODEs $x_1 = f(t)$ and $x_2 = g(t)$ that model the motion for each mass by solving the system of IVPs that model this scenario. (Hint: this is similar to the S1 standard, but your solution will involve $\cos t$ and $\cos 2t$.)