

Homework Assignment 10 Name \_\_\_\_\_  
due in class Wednesday, November 8

*Cover sheet : Staple this page in front of your solutions, with answers where indicated.*

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[47] Problem 4.53 \*\*

*What is  $T_1 - T_2$ ? =  $Ke^2/2 (1/r - 1/r')$*  **2 points**

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[48] Problem 5.25 \*\*

*What is the time between maxima? Also, what is  $\omega_1$  for part (c)?*  
 $\tau = 2\pi / \omega_1$   $\omega_1 = \sqrt{3}/2 \omega_0$  **2 points**

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[49] Problem 5.30 \*\*

*Hand in the computer program and computer plots. Check plots* **2 points**

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[50] Problem 5.37 \*\*

*Hand in the computer program and computer plot.*  
*Explain the similarities and differences compared to Example 5.3.* **2 points**  
*/1/ The decay time is longer;  $\beta$  is smaller.*  
*/2/ The period of transient oscillations is longer;  $\omega_0$  is smaller.*  
*/3/ The period of steady state oscillations is the same;  $\omega$  is the same.*

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[51] Problem 5.44 \*\*

*Express  $Q$  in terms of the parameters ( $m, \omega, \beta$ ).*  $Q = \omega / 2\beta$  **2 points**

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[52] Problem 5.52 \*\*\* [Computer]

*Hand in the computer program and computer plot.*  
*Compare your results with those of the example.*  
*The amplitudes are larger than in Figure 5.25.* **3 points**

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