Suggested problems: Sec 6.6 # 4, 5, 6, 8, 9, 10, 18; Sec 7.1 # 2, 4, 7(a,b); Sec 7.2 # 1, 2, 4, 8, 22, 23
Sec 7.3 # 16, 17, 18, 19; Sec 7.5 # 2(a), 4(a), 7(a), 16

No quiz.

Mandatory problems:

(1) [**20 pts**] Solve the IVP: $y'' + 2y' + 2y = \sin \alpha t$; $y(0) = y'(0) = 0$.

(2) [**5 pts**] Convert the IVP, $u'' + 0.25u' + 4u = 2\cos 3t$; $u(0) = 1$, $u'(0) = -2$ into a system of IVPs with two first order ODEs.

(3) [**15 pts**] Solve the IVP

$$x' = \begin{pmatrix} 5 & -1 \\ 3 & 1 \end{pmatrix} x, \; x(0) = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$$

Your homework raw score is: $\dfrac{n}{2m} \cdot M + \left(1 - \dfrac{n}{2m}\right) \cdot N = N + \dfrac{n}{2m}(M - N)$.