

A Hint for Problem #14 on Page 234:

The system of equations for this system are as follows:

Let x_1 and x_2 be the distance that m_1 and m_2 are displaced. Then the system is governed by Newton's Second Law:

$$\begin{aligned}m_1x_1'' &= -k_1x_1 + k_2(x_2 - x_1) \\m_2x_2'' &= -k_2(x_2 - x_1) - k_3x_2\end{aligned}$$

where k_1, k_2, k_3 are the spring constants for the system as drawn on p.334.