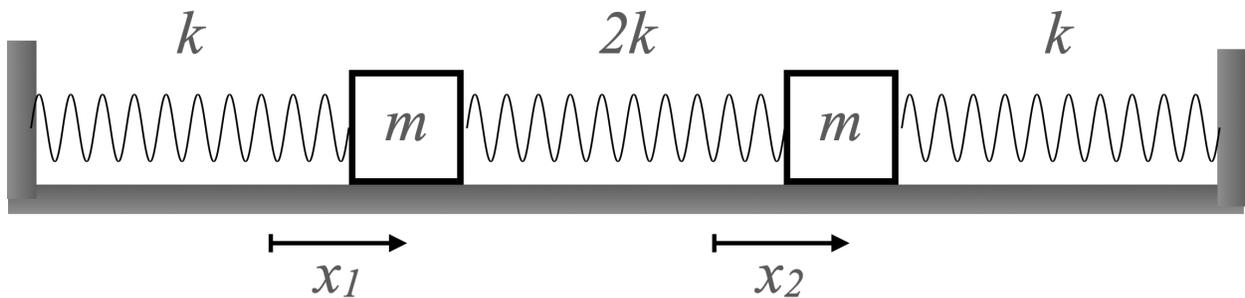


# PHYS2063 Wave Physics Homework #5 Due Thursday 8 Sep 2022

*This homework assignment is due at the start of class on the date shown. You may submit a PDF of your solutions to the Canvas page for the course, or bring a paper copy to class.*

Two masses  $m$  are connected by three springs, where the middle spring has twice the stiffness of the outer springs:



Write down the differential equations of motion for  $x_1(t)$  and  $x_2(t)$ . Find the two fundamental frequencies in terms of  $\omega_0^2 = k/m$ .