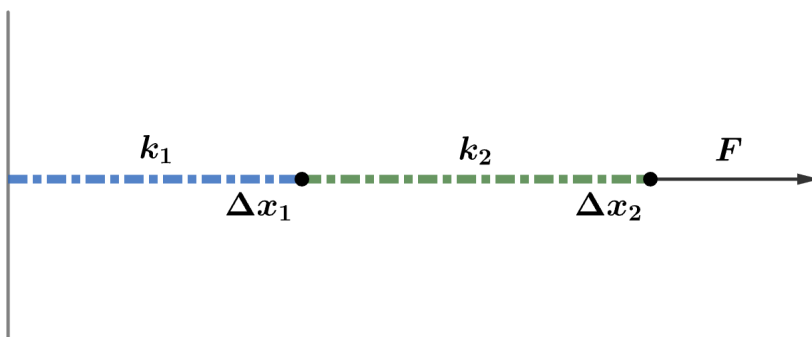


2019B F=ma Exam: Problem 3

Kevin S. Huang



Consider the point connecting the two springs. It's at rest so the net force on it must be zero:

$$k_1 \Delta x_1 = k_2 \Delta x_2$$

so

$$\frac{\Delta x_1}{\Delta x_2} = \frac{k_2}{k_1}$$

Thus,

$$\frac{U_1}{U_2} = \frac{\frac{1}{2}k_1(\Delta x_1)^2}{\frac{1}{2}k_2(\Delta x_2)^2} = \frac{k_2}{k_1}$$

so the answer is .