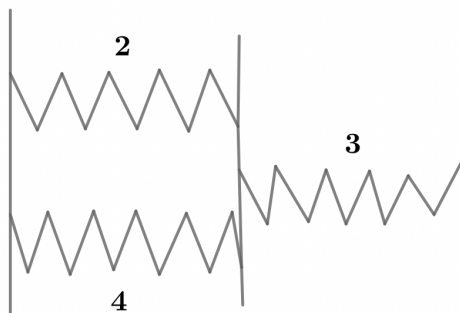
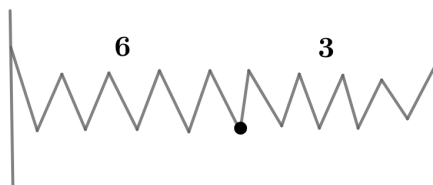


2022B F=ma Exam: Problem 10

Kevin S. Huang



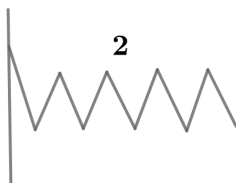
The first two springs are in parallel so they can be replaced by a single spring with $k = 2 + 4 = 6$.



Now the two springs are in series so they can be replaced by a single spring with

$$\frac{1}{k_e} = \frac{1}{6} + \frac{1}{3} = \frac{1}{2}$$

$$k_e = 2$$



To extend the system by Δx , we need to apply a force

$$F = k_e \Delta x = 2 \text{ N}$$

so the answer is B.