

1. In an experiment, you hang a 10-N weight from spring A and it stretches by 0.20 m from its relaxed length. You hang the same weight from spring B and it stretches by 0.10 m from its relaxed length. (a) What are the stiffness constants of the two springs? (b) The two springs have the same relaxed lengths. You hang the 10-N weight simultaneously from the two springs in parallel (side-by-side). By how much does this combination stretch? (c) If you replaced the parallel combination with a single spring that produced the same amount of stretching, what would be its stiffness constant? (d) Suppose you connect the two springs together in series (end-to-end) and hang the 10-N weight from the combination. By how much does the combination stretch? What is the stiffness of a single spring that would give the same amount of stretching if it replaced the series combination?