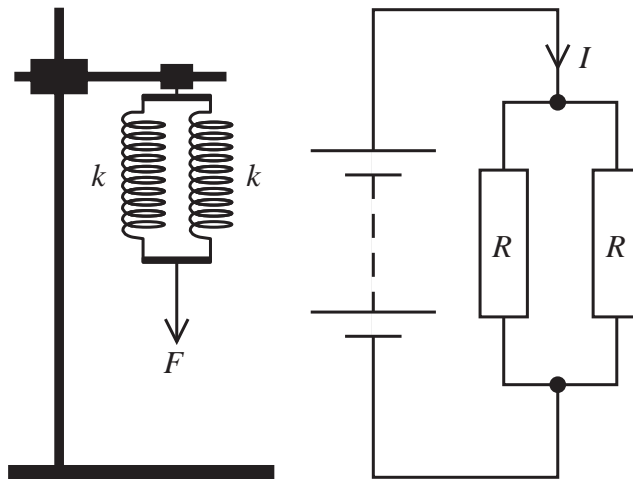


A student is experimenting with different combinations of springs and recalls that in physics it is often possible to model different physical situations in similar ways.

The student suggests that a parallel combination of springs could be a model for a parallel combination of resistors in a circuit.



- (a) Derive an expression for the effective resistance R_{eff} of two resistors R_1 and R_2 connected in parallel in a circuit.

(3)

- (b) Assess the validity of the student's suggestion by considering the effective stiffness of two identical springs in parallel.

(6)