

Problem Set #5

Due Wednesday, February 14, 2001

All problems are from *Physics*, by Halliday, Resnick, and Krane.

1. Given three capacitors, C_1 , C_2 , and C_3 :
 - (a) Prove that the equivalent capacitance C_{eq} of the three in series is:
 $[(C_1)^{-1} + (C_2)^{-1} + (C_3)^{-1}]^{-1}$.
 - (b) Prove that the equivalent capacitance C_{eq} of the three in parallel is:
 $[C_1 + C_2 + C_3]$.
2. Chapter 31, Problem 15.
3. Chapter 33, Problem 53.
4. Chapter 34, Problem 12.
5. Chapter 34, Problem 22.