

Homework 3

Chapter 20

Problem 1. (a) Calculate the speed of a proton that is accelerated from rest through a potential difference of $\Delta V = 120 \text{ V}$.
(b) Calculate the speed of an electron that is accelerated through the same potential difference.

Problem 11. The three charges in Figure P20.11 are at the vertices of an isosceles triangle. Calculate the electric potential at the midpoint of the base, taking $q = 7.00 \mu\text{C}$.

Problem 27. A uniformly charged insulating rod of length $L = 14.0 \text{ cm}$ is bent to form a semicircle. The rod has a total charge of $Q = -7.50 \mu\text{C}$. Find the electric potential at the center of the semicircle.