

PHYS1120
Summer 2025

1. A charged particle of charge $q = -8.5 \mu\text{C}$ and mass $3.1 \times 10^{-12} \text{ kg}$ has velocity $v_0 = 2.5 \text{ km s}^{-1}$ in the $+y$ -direction. The moving particle then enters a region with a uniform magnetic field. If the particle's motion reverses in a semi-circular path with radius $R = 5 \text{ cm}$, calculate the magnitude and direction of the magnetic field.

