

1. Jackson 5.8
2. Jackson 5.10(a). In part (c) calculate the components of  $\mathbf{B}$  as requested. Don't evaluate  $\mathbf{B}$  along the  $z$  axis as requested. Instead, take the limit  $z = 0$ , show that  $B_\rho = 0$  and evaluate  $B_z$  for  $\rho = a - \epsilon$  with  $\epsilon$  small. In this limit you can complete the integral over  $k$ . Show that the integral diverges as  $\epsilon$  goes to zero. Interpret the latter.