

You should make sure you know how to do all of these problems. Underlined problems are particularly important to spend some time with. The boxed problems are to be “written up” (see the course syllabus) to be turned in.

This assignment is due at the *beginning* of class on Friday, April 6

Chapter 5*Section 4*

5.22 5.23 5.24 5.26 5.29

End of chapter problems

5.48 5.53 5.55 5.57 5.60

Just for fun problem (and genuine opportunity to get your name published!)

[From “Physics Challenges for Teachers and Students,” *The Physics Teacher*, **45**, 251, (April 2007). If you do solve this problem, you can send your solution in to *The Physics Teacher* and get your name published in a future issue!]

Two particles have equal masses m and electric charges of equal magnitude and opposite sign ($+q$ and $-q$). The particles are held at rest in a uniform magnetic field B . The direction of the field is perpendicular to the line connecting the charges. The particles are released simultaneously. What is the minimum initial separation L that allows the particles not to collide after they are released? Neglect the effects of gravity.