

Please staple this **coversheet** to your work. **Name:** _____, _____
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Physics 311

Homework Set 6

Due: Oct. 12, 2009

J. van Howe

1. Griffiths 5.22; My recommendation is to set it up how we would do any general problem and ignore the geometry tricks Griffiths uses in Example 5.5 (that is, Example 5.5 is clever, but not a general hard-fast rule). In the end use the geometry in Fig. 5.19 to check your answer. The curl of vector potential is not terrible but ugly. Feel free to use Mathematica. If however, you can be clever, by all means, proceed.

2. 5.46; Helmholtz Coils

3. Griffiths 5.56, skip part b); A little review on moments of inertia, too.

4. Griffiths 5.34. Also find the vector potential and plot both the vector potential and magnetic field using Mathematica.

5. Griffiths 6.12; the magnetic version of Griffiths 4.15 that we did in class.

6. Griffiths 6.16