

AE6520
Fall 2002
Homework #10

Due: Wednesday December 4, 2002 at 11am (beginning of class)

1. Do problem 7.4 in the text.
2. Do problem 7.9 in the text.
3. Do problem 7.10 in the text. Be sure to organize your answers in a readable table.
4. How fast must a football (an American one) be spinning in order to be stabilized for a pass? First obtain and state an analytical expression. Second estimate, measure, or guess any parameters you need to get a numerical result. Note: A handy estimate for pitching moment on a slender body of revolution is $M = \frac{V\bar{q}}{2}\alpha$, where V is the volume of the body and \bar{q} is the dynamic pressure (Max Munk, 1923, NACA TR-184).