MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Department of Physics

Physics 8.01L **IAP 2006**

Problem Set 11 (IAP2): Angular Energy & Momentum

Due Friday, January 20 at the start of class at 11am.

Please write your name, recitation number, table number, and tutor name on the top right corner of the first page of your homework solutions. Please place your solutions in the Problem Set Solution hand-in bin at the entrance of the classroom.

Reading:
Young & Freedman Chapter 9 (Sections 9.4-9.6), Chapter 10 (Sections 10.4-10.6) & Chapter 13 (Sections 13.4-13.6)

Problem 1 Is Bigger Better?
Young & Freedman Problem 9.40 (Page 355)

Problem 2 Solving a Real Wheel
Young & Freedman Problem 9.41 (Page 355)

Problem 3 Don't Break the Wheel
Young & Freedman Problem 9.47 (Page 356)

Problem 4 The Rest of the Problem
Young & Freedman Problem 9.73 (Page 357) Note: This time do **only** parts c & d

Problem 5 Your Next Job?
Young & Freedman Problem 9.82 (Page 358)

Problem 6 Blocks & Pulley
Young & Freedman Problem 9.85 (Page 358)

Problem 7 A Problem with Many Concepts
Young & Freedman Problem 10.39 (Page 396)

Problem 8 Projectile Mystery
Young & Freedman Problem 10.75 (Page 400)

Problem 9 Analyzing a Class Demo Numerically
Young & Freedman Problem 10.93 (Page 402)

Problem 10 Silently Ringing Bell
Young & Freedman Problem 13.89 (Page 513)

Problem 11 How Simple is a Simple Pendulum?
Young & Freedman Problem 13.94 (Page 513) Note the following **change** in **part c**. Use **5.7 cm** for the **diameter** of the sphere. This corresponds closely to the actual diameter of the billiard balls used in class demos.