

PHYSICS 5A – HOMEWORK SET 5

Due Wednesday, 10/23/02. Ten points per problem. Answers to the odd-numbered exercises are in the back of the book.

Reading: Young and Freedman Chapter 6, Chapter 7 sections 7.1 and 7.2.

- 1.) Problem 6.17
- 2.) Problem 6.19
- 3.) Problem 6.26 [Answers: a) 800 N; b) 240 J and 1600 N]
- 4.) Problem 6.34 [Answer: 0.53 m].
- 5.) You may recall that, during the discussion of projectile motion, you were asked to solve Problem 3.54. At the time, it was pointed out that the problem would be much more easily solved using the concepts of gravitational potential energy and energy conservation. So, solve Problem 3.54 with these new tools. From this point of view, why is it that the speed is independent of α_0 ?
- 6.) Problem 6.55
- 7.) Problem 6.63
- 8.) Problem 6.67
- 9.) Problem 6.83
- 10.) Problem 6.88 [Answer: a) 118 km/h; b) 90 km/h].
- 11.) Problem 7.10 [Answer: 7.9 m/s]
- 12.) Problem 7.11