

PHYSICS 5A – HOMEWORK SET 10

Due Wednesday, 11/27/02. Ten points per problem. Answers to the odd-numbered exercises are in the back of the book.

Reading: Young and Freedman Chapter 12, sections 12.4-12.9, Chapter 13, sections 13.1-13.9.

1.) A rocket with mass m is shot vertically upward from the surface of the earth. If the rocket's initial speed is 6.00×10^3 m/s, to what height above the earth's surface will it rise? Ignore all forms of friction. (Answer: 2.58×10^6 meters)

2.) Problem 12.23

3.) Problem 12.50; do part a) only. Assume that you can jump one meter high on earth. (Answer: 3.7 km)

4.) Problem 12.52 (Answer to b): 3.45×10^8 m; to c): 2.9 km/s).

5.) Problem 12.61

6.) Problem 13.9

7.) Problem 13.17

8.) Problem 13.25

9.) Problem 13.35

10.) Problem 13.63

11.) Problem 13.54 (Answers: a) -g; b) 0.110 m; c) 2.11 m/s; e) 4.77 m/s)

12.) Problem 13.55