

Physics 101: How the “world” works Fall 2008

Homework 3

Due at the beginning of Lecture on Oct. 1

Chapter 5 Problems

- (1) 4
- (2) 9
- (3) 12
- (4) 18
- (5) 24
- (6) 25
- (7) 26

Jane is running from the ivory hunters in the jungle. Cheetah throws a 7.0 m long vine toward her. Jane leaps onto the vine with a speed of 4.0 m/s. When she catches the vine, it makes an angle of 20 degrees with respect to the vertical. (a) When Jane is at her lowest point, she has moved downward a distance h from the height where she originally caught the vine. What is h in terms of the given angle and the given length of the rope? (b) How fast is Jane moving when she is at the lowest point in her swing? (c) How high can Jane swing above the lowest point in her swing? Neglect friction and air resistance.