

Physics 20 Problem Set 8

Harry Nelson

**due Monday, November 22, by 5pm
to the Physics 20 Boxes in Broida Hall's Lobby**

Course Announcements: These problems pertain to the ninth week's lectures, and the corresponding reading is Chapter 3 of KK and Chapter 9 of RHK4 (skip over mentions of energy in RHK4). PSR fellows are available to help you on Wed. and Thurs., 6pm-8pm in the PSR, and Sunday 6pm-8pm in 1640 Broida. Take advantage of their help!!!

1. KK 3.4. This is one where there is a brief and correct answer, and also a longer (and still correct) answer.
 2. KK 3.5. On this one, first think: is the net force on the system (defined by acrobat + monkey) constant over time? Does the net force on the system change when the monkey leaves the perch? Then it is very useful to recall the equation we got by eliminating time from the y -component of the trajectory equation, $v_y^2 = v_{y0}^2 - 2gy$.
 3. KK 3.8. Assume it takes $1/5$ of a second for the woman to launch herself.
 4. KK 3.10
 5. KK 3.16
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