

Problem Set 1 – 10 points each – due September 10

1. A particle moves in one dimension in the potential

$$V(x) = a(e^{-2x} - 2e^{-x})$$

Sketch the potential and describe what kinds of qualitative motion can occur for different values of the energy E . Find the period of bounded motion when this occurs.

2. Goldstein, Chapter 1, Problem 10, page 31.
3. Goldstein, Chapter 1, Problem 13, page 31.
4. Goldstein, Chapter 1, Problem 21, page 33.