

# Physics 301

Homework due 30 October 2024

- 1) Stowe problem 16-5.
- 2) Stowe problem 16-17.
- 3) Suppose that the energy stored at any instant in a certain degree of freedom is linear, rather than quadratic, in the generalized coordinate; that is, suppose  $E = cq$ , where  $E$  is the instantaneous energy,  $q$  is the position or momentum, and  $c$  is a constant. Show that the average energy for this degree of freedom is  $E = kT$ .
- 4) Stowe problem 17-6.
- 5) Stowe problem 17-8.