

Exercises in Statistical Mechanics

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This exercises pool is intended for a graduate course in “statistical mechanics”. Some of the problems are original, while other were assembled from various undocumented sources. In particular some problems originate from exams that were written by B. Horovitz (BGU), S. Fishman (Technion), and D. Cohen (BGU).

==== [Exercise 2340]

Tension of a chain molecule

A chain molecule consists of N units, each having a length a , see figure. The units are joined so as to permit free rotation about the joints. At a given temperature T , derive the relation between the tension f acting between both ends of the three-dimensional chain molecule and the distance L between the ends.

