

Due date: Tuesday, Oct. 23

Deadline: Thursday, Oct. 25

S means a problem in Schroeder's text. The number in parentheses is the number of points.

1. (5) S 5.28 Calcite and aragonite: extension of analysis of diamond and graphite.
2. (10) S 5.32 Debunks a common belief about how ice skating works.
3. (5) S 5.50 One-liner on compression factor for vdW
4. (15) S 5.54 Hint: $F/(Nk_B T) = t \ln(3v-1) - 9/(8v) + f_F(t, N)$, the last term being some function not dependent on v .
5. (5) S5.60 (Trace the solid lines of Fig. 5.31, then draw in the appropriate dashed lines with arrows.)
6. (10) S5.62 Derivation of the lever rule.

Students who have taken PHYS 411 would do well to look at S 5.17 (also S 5.47). Some results, for general information are: $dU = T dS + \mu_0 \mathcal{H} dM$ and $dG = -S dT - \mu_0 M d\mathcal{H}$

Those of you who are intrigued by the idea of distinctive behavior near critical points might want to look at S 5.55 (too long to assign).