Comments to some problems calculated ch 13

13.1. We discussed the formulae used, what is its background.
13.5
13.10 and 13.12 We discussed ordering and how it affects resistivity
13.13,13.14 We discussed derivation of law of mass action.
13. 18 We discussed the temperature dependence of semiconductors
13.19 Straight forward
13.34 , 13.36 Straight forward
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Comments to the problems of chapter 14.

The problems calculated where

14.12 The answer back in the book is wrong of course.

14.13 The answer back in the book is also wrong.
For this example you may also note, as a curiosity, that the band gap
given for InN given is wrong, according to newer research, and should be
0.7 eV. You may also compare with the measurements of GaxIn(1-x)N given in
the lecture notes to chapter 14. The band gaps attainable with GaInN thus
covers the whole solar spectrum.

14.20. In the Gladstone-Dale formulae given in the book, there are no
instructions or details about which units to use for the mass density. The
unit should be g/cm^3. In the problem the unit for the parameter is
kg/m^3 so you have to convert. It is ambigous what the 'wight fraction'
actually is. You can find that out by making a guess and then calculate
the refractive index and compare to the correct answer given in the back
of the book.