Answers to textbook bonding questions.

Page 135 3.7 a) linear – any two atoms must be linear. Non polar because it is two of the same atom. b) linear, just like “a”, but two different atoms must be polar

c) pyramid, which has a different top and bottom, so it is polar

d) tetrahedral, which is symmetrical and nonpolar (just like CH4)

e) Linear, just like CO2 , which is symmetrical and NONpolar.

149 – 153 2) 3 3) 4 4) 1 5) 2 6) 2 7) 4 8) 2 9) 1 10 ) 2

11) 4 12) 3 13) 4 14) 4 15) (2)\* may depend on which table of electronegativities you use. 16. 1 17 ) 1 18 ) 4 19 ) 2 20 ) 2

21 4 22. 2 (all of the others are ionic) 23. 3 (none of the others are dipoles) 24. 4 (the only ionic choice 25 1 (not required any more ) 26. 4

27. 1 (no longer required) 28. 2 29. 2

30. 2 31 4 32. 3 33. 1 34. 3 35. 5

Constructed: 1. Solid Mg is a metal, while MgO is ionic

b) Salt is an ionic solid, while sugar is molecular, and has no ions

c) Iodine is a larger molecule with stronger dispersion forces

d) water has hydrogen bonds, which are stronger than the attractions in H2S

2. It is tetrahedral and IS a dipole