

Solutions

Chapter 1: Solutions

1.1 Exercises

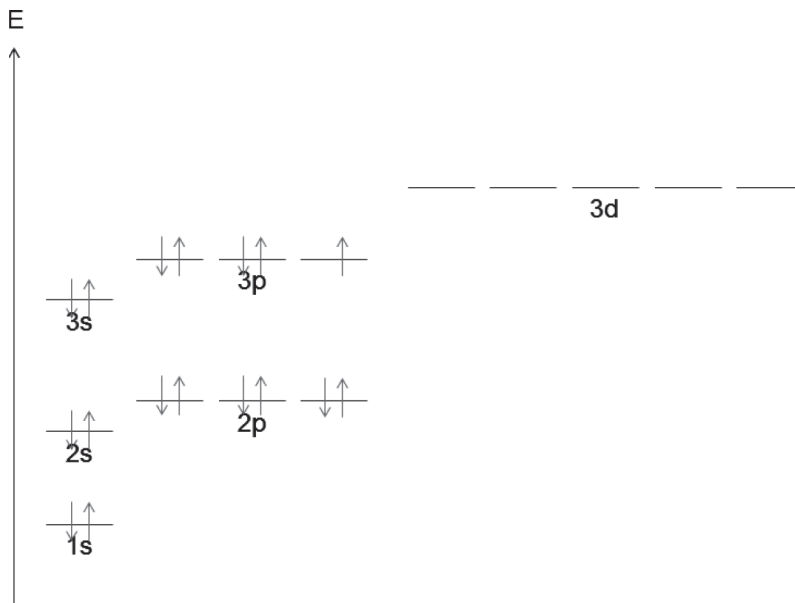
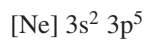
1.1.1 Write the electron configuration for the following elements or ions:

- (a) F
[He] $2s^2 2p^5$
- (b) Cl
[Ne] $3s^2 3p^5$
- (c) Cl^-
[Ne] $3s^2 3p^4$
- (d) Na
[Ne] $3s^1$
- (e) Na^+
[Ne]
- (f) Si
[Ne] $3s^2 3p^2$

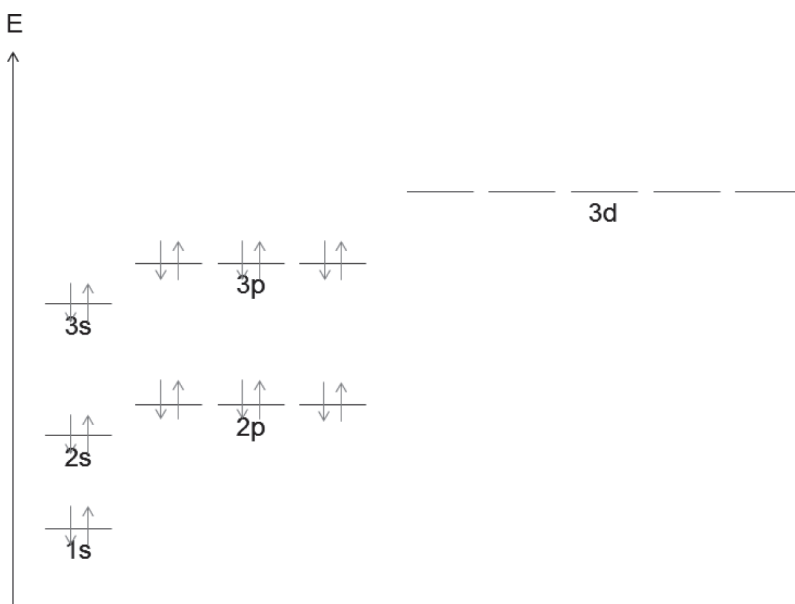
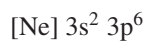
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1.1.2 Draw the energy diagram for the following elements or ions:

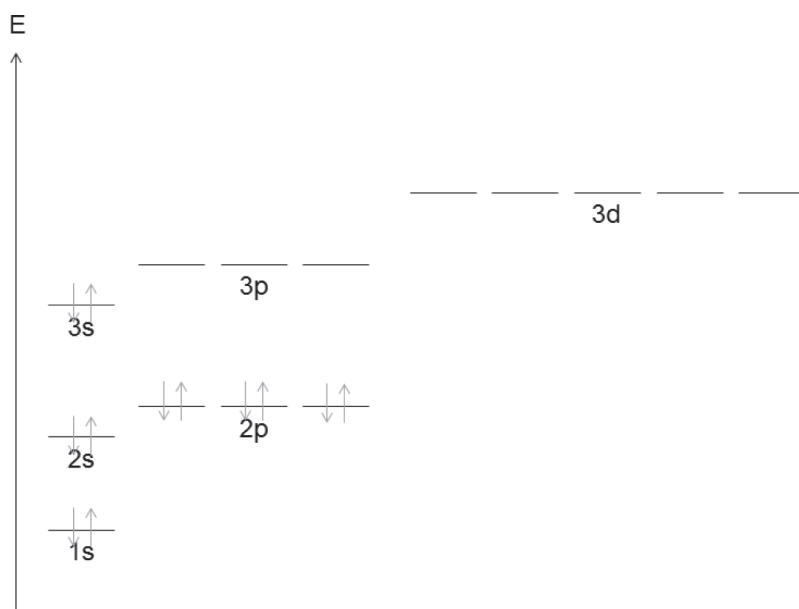
(a) Cl



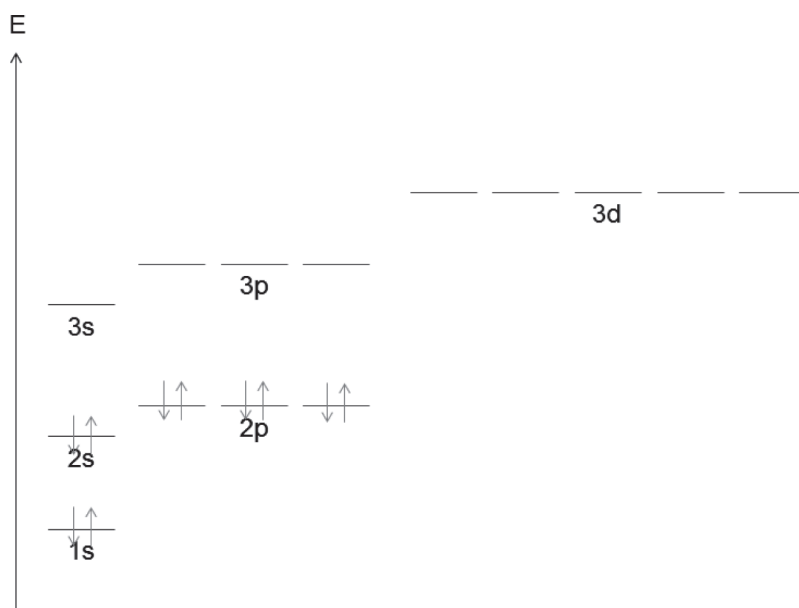
(b) Cl^-



(c) Mg

[Ne] 3s²(d) Mg²⁺

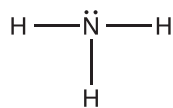
[Ne]



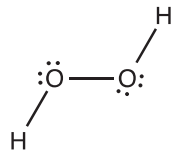
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1.1.3 Draw the Lewis structure for the following molecules:

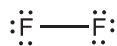
(a) NH_3



(b) H_2O_2



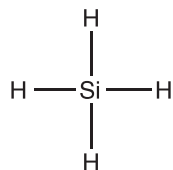
(c) F_2



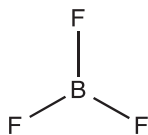
(d) O_2



(e) SiH_4



(f) BF_3



(g) N_2



