Electron Configurations – answer key – excuse the lack of superscripts

1. Mg – 12 electrons – 1s2 2s2 2p6 3s2
2. P – 15 electrons – 1s2 2s2 2p6 3s2 3p3
3. V – 23 electrons – 1s2 2s2 2p6 3s2 3p6 4s2 3d3
4. Ge – 32 electrons – 1s2 2s2 2p6 3s2 3p6 4s2 3d10 4p2
5. Kr – 36 electrons – 1s2 2s2 2p6 3s2 3p6 4s2 3d10 4p6
6. O – 8 electrons – 1s2 2s2 2p4
7. Ca – 20 electrons – [Ar] 4s2
8. Pb – 82 electrons – [Xe]6s2 4f14 5d10 6p2
9. F – 9 electrons – [He] 2s2 2p5
10. U – 92 electrons – [Rn] 7s2 5f4
11. Hund’s rule is broken – there are two electons in a single 2p orbital, should be one electron each in two separate p orbitals
12. Aufbau principle violated – the 3s must be filled before the 3p
13. Pauli exclusion principle violated – the two electrons in the 3s orbital have the same spin
14. Aufbau principle violated – 4s should be filled before 3d