

10. (a) The atomic number  $Z = 39$  corresponds to the element Yttrium (see Appendix F and/or Appendix G), and  $Z = 53$  corresponds to Iodine.
- (b) A detailed listing of stable nuclides (such as the website <http://nucldata.nuclear.lu.se/nucldata>) shows that the stable isotope of Iodine has 74 neutrons, and that the stable isotope of Yttrium has 50 neutrons (this can also be inferred from the Molar Mass values listed in Appendix F).
- (c) The number of neutrons left over is  $235 - 127 - 89 = 19$ .