52. (a) The mass number A of a radionuclide changes by 4 in an α decay and is unchanged in a β decay. If the mass numbers of two radionuclides are given by $4n + k$ and $4n' + k$ (where $k = 0, 1, 2, 3$), then the heavier one can decay into the lighter one by a series of α (and β) decays, as their mass numbers differ by only an integer times 4. If $A = 4n + k$, then after α-decaying for m times, its mass number becomes $A = 4n + k - 4m = 4(n - m) + k$, still in the same chain.

(b) $235 = 58 \times 4 + 3 = 4n_1 + 3$, $236 = 59 \times 4 = 4n_2$, $238 = 59 \times 4 + 2 = 4n_2 + 2$, $239 = 59 \times 4 + 3 = 4n_2 + 3$, $240 = 60 \times 4 = 4n_3$, $245 = 61 \times 4 + 1 = 4n_4 + 1$, $246 = 61 \times 4 + 2 = 4n_4 + 2$, $249 = 62 \times 4 + 1 = 4n_5 + 1$, $253 = 63 \times 4 + 1 = 4n_6 + 1$.