

- 39 A nucleus of $^{238}_{92}\text{U}$ decays in stages by emitting α -particles and β^- particles, eventually forming a nucleus of $^{206}_{82}\text{Pb}$.

How many α -particles and how many β^- particles are emitted during the decay chain?

| | α -particles | β^- particles |
|---|---------------------|---------------------|
| A | 8 | 6 |
| B | 8 | 10 |
| C | 16 | 6 |
| D | 16 | 22 |

- 40 Which list of particles contains all four stable nuclei?