

**38** The numbers of protons, neutrons and nucleons in three nuclei are shown.

nucleus	number of protons	number of neutrons	number of nucleons
X	15	16	31
Y	15	17	32
Z	16	16	32

Which nuclei are isotopes of the same element?

- A** X and Y
- B** X and Z
- C** Y and Z
- D** none of them

**39** In an experiment to investigate the nature of the atom, a very thin gold film was bombarded with