

38 An α -particle passes close to a gold nucleus and is deflected through an angle greater than 90° .

Which property of the α -particle changes as a result of the deflection?

- A** charge
- B** momentum
- C** nucleon number
- D** proton number

39 A sample of ^{238}U has a half-life of 4.5 billion years. A sample of ^{235}U has a half-life of 7.0 billion years. The ratio of the number of ^{238}U nuclei to the number of ^{235}U nuclei in the sample is 1.0. The ratio of the number of ^{238}U nuclei to the number of ^{235}U nuclei in the sample after 14.0 billion years is