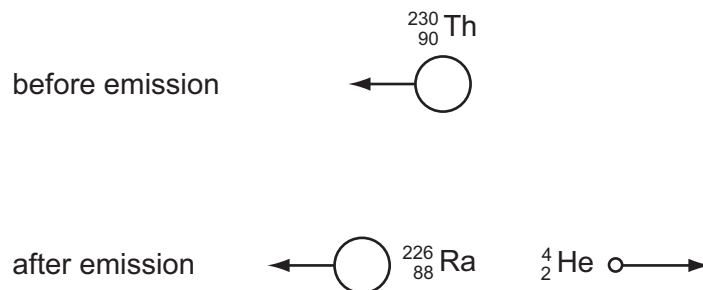


- 10** A moving thorium nucleus  ${}_{90}^{230}\text{Th}$  spontaneously emits an  $\alpha$ -particle. The nucleus formed is a radium nucleus  ${}_{88}^{226}\text{Ra}$ , as shown.



Which statement is correct?

- A** The kinetic energy of the  $\alpha$ -particle equals the kinetic energy of the radium nucleus.
- B** The momentum of the  $\alpha$ -particle equals the momentum of the radium nucleus.
- C** The total momentum before the emission equals the total momentum after the emission.
- D** The velocity of the  $\alpha$ -particle equals the velocity of the radium nucleus.

**Space for working**