

- 19** An alpha particle and a proton are moving perpendicularly to a uniform electric field. The speed of alpha particle is 4.0 times the speed of proton.

Determine the ratio  $\frac{\text{component of speed of alpha particle parallel to electric field}}{\text{component of speed of proton parallel to electric field}}$  after time  $t$ . Ignore the effects due to gravitation field.

**A** 0.5

**B** 1.0

**C** 1.5

**D** 2.0