

**16** A particle oscillates in simple harmonic motion with amplitude  $x_0$  and total energy  $E$ .

What is the potential energy of the particle at a displacement of  $\frac{1}{3}x_0$  from the equilibrium?

A  $\frac{1}{9}E$

B  $\frac{1}{3}E$

C  $\frac{2}{3}E$

D  $\frac{8}{9}E$