

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 $\frac{8}{9}E$