19 An object travels between two points. The change in gravitational potential energy ΔE_p of the object is given by

$$\Delta E_p = mg\Delta h$$

where m is the mass of the object, Δh is its change in height and g is the acceleration of free fall.

What is a necessary condition in order for the above equation to be valid?

A The object must have a constant acceleration of $9.81\,m\,s^{-2}$.

B The object must be travelling in a uniform gravitational field.

C The object must be travelling only in a vertical direction.

D The resultant force on the object must be equal to its weight.