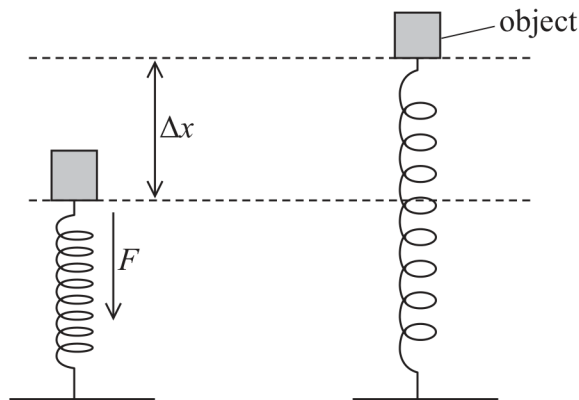


- 3 An object of mass m is resting on top of a spring. The spring is compressed a further distance Δx by a vertical force F . The force is removed and the spring returns to its original length as shown.



When Δx becomes zero the object has a vertical speed v .

Which of the following equations describes the energy transfer as the spring returns to its original length?

- ☐ A $\frac{1}{2} F \Delta x = \frac{1}{2} m v^2 - m g \Delta x$
- ☐ B $\frac{1}{2} F \Delta x = \frac{1}{2} m v^2 + m g \Delta x$
- ☐ C $F \Delta x = \frac{1}{2} m v^2 - m g \Delta x$
- ☐ D $F \Delta x = \frac{1}{2} m v^2 + m g \Delta x$