

19 A spring of spring constant 30 N m^{-1} is suspended vertically from its top. The spring obeys Hooke's law. Initially the spring is not compressed and not stretched. A mass of 0.50 kg is attached to the bottom of the spring. The mass is released from rest and falls.

Frictional effects are negligible.

In the motion that follows, what is the maximum extension of the spring?

A 0.017 m

B 0.033 m

C 0.16 m

D 0.33 m