A mass of 2.0 kg attached to a light spring is oscillating on a smooth horizontal surface at a frequency of 1.0 Hz. The other end of the spring is fixed to a wall. The amplitude of oscillation of the spring-mass system is 4.0 cm.

What is the speed of the mass when it is at a distance 3.0 cm from its equilibrium position?

A

2.6 cm s^{-1}

B

3.9 cm s^{-1}

C

17 cm s^{-1}

D

24 cm s^{-1}