

A mass 5 kg is attached to a spring suspended from the ceiling. When the mass comes to rest at equilibrium, the spring has been stretched 2 m . The mass is raised 1 meter above equilibrium and is given an initial downward velocity 2 m/s . There is a damping force which is measured to be $3 \frac{\text{kg}\cdot\text{m}}{\text{s}^2}$ when the mass is moving

at 1 m/s . Determine the motion of the mass. Describe its motion in as much detail as possible.