

23.7 A point charge $Q = +4.60 \mu\text{C}$ is held fixed at the origin. A second point charge $q = +1.20 \mu\text{C}$ with mass of $2.80 \times 10^{-4} \text{ kg}$ is placed on the x -axis, 0.250 m from the origin. (a) What is the electric potential energy U of the pair of charges? (Take U to be zero when the charges have infinite separation.) (b) The second point charge is released from rest. What is its speed when its distance from the origin is (i) 0.500 m ; (ii) 5.00 m ; (iii) 50.0 m ?
