10. This problem can be solved using the principle of conservation of mechanical energy in exactly the same manner as we solved problem number 6 and problem number 8. Thus we have

$$PE_1 + KE_1 = PE_2 + KE_2$$

$$m\,g\,h_1 + 0 = 0 + 1/2\,m\,(v_2)^2$$

$$g\,h_1 = 1/2\,(v_2)^2$$

$$(9.8\ m/s^2)\,(0.4\ m) = (1/2)\,(v_2)^2$$

$$(v_2)^2 = 7.84\ m^2/s^2$$

$$v_2 = 2.8\ m/s$$