## Homework H.4.G

Given: Particles A and B (having masses of m_A and m_B) are interconnected by the cable-pulley system shown in the figure. Both particles are constrained to vertical motion with particle A able to slide on a smooth vertical rod. The system is released at $s_A = 0$ m with A traveling downward with a speed of v_{A1}. Assume the pulleys to be small, massless and frictionless.

Find: Find the speed of particle A when A has reached the position of s_A.
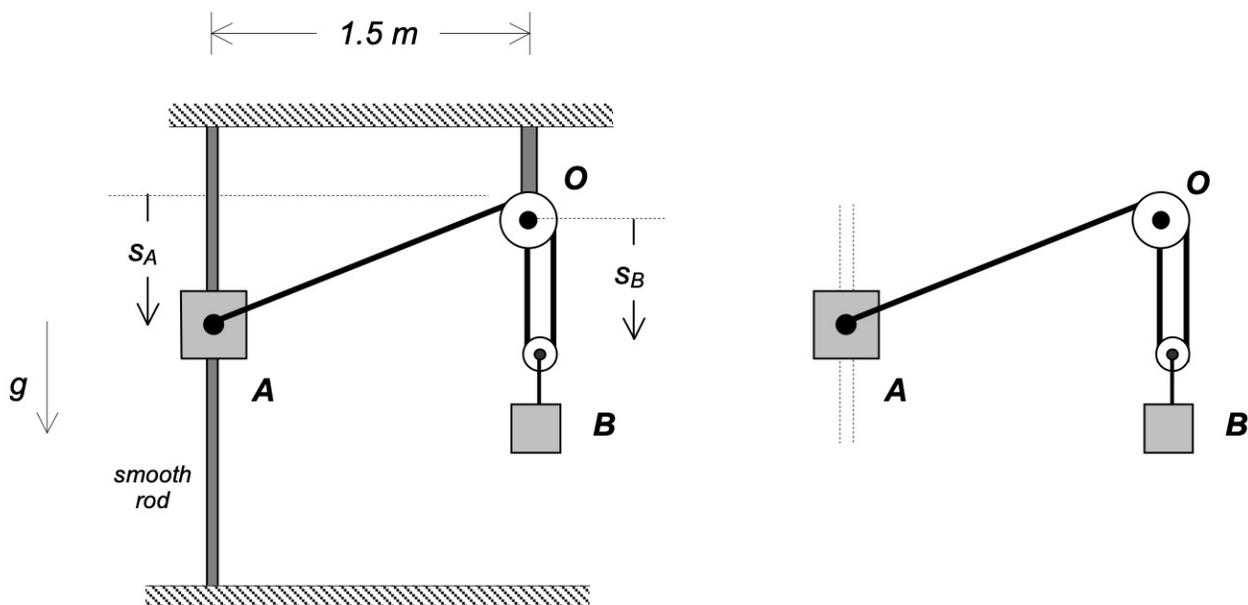
Use the following parameters in your analysis: $m_A = 10$ kg, $m_B = 10$ kg, $v_{A1} = 5$ m/s and $s_A = 2$ m.