Physics 10154 – Exam #5A

Answer the following two questions. Be sure to clearly indicate your answer with a circle or box. <u>Show all work</u>. If I cannot see how you arrived at an answer, I will deduct points!

1. A 3.0-kg mass is attached to a 4.5-meter massless string attached to a pivot in the ceiling. The string is initially at an angle of 34° with respect to the vertical. When the mass passes through the lowest point of its pendulum motion, it is moving at a speed of 3.2 m/s. $V_0 = 0$

Find the work done by frictional forces in this problem.

2. Two masses are attached by a massless string draped over a frictionless, massless pulley as shown below. Mass A is 4.5 kg, mass B is 7.5 kg. The system is initially at rest with neither object touching the ground. How fast is mass A moving after it has moved upwards a distance of 1.5 meters?