QUIZ # 5. Chapter 6. Energy and Work. PHYS 203.

NAME:

Consider a track that is one quarter of a circle with radius 1.60 m plus a level surface.

A small 0.200 Kg package is release from rest at point A and slides down the circular track until it reaches point B at the end of the circular track with speed of 4.20 m/s. From point B it slides on a level surface a distance of 3.00 m to point C, where it comes to rest. Consider that there is friction between the package and the track.

(a) Using energy considerations, calculate the coefficient of kinetic friction on the horizontal surface.

(b) How much work is done on the package by friction as it slides down the circular arc from A to B?

(c) Identify the forces acting on the package when it is on the horizontal surface. Calculate the work done by each of these forces when the package goes from B to C.

(d) Identify the forces acting on the package from A to B and determine which forces are conservatives and which are non conservative. Explain.