Test 3

Total: / 24 marks   Name : _ _ _ _ _ _ _ _ _

Problem 1

A object of mass $m_1 = 2$kg is sent from position A with a speed $v = 3 \text{ms}^{-1}$ in direction of B.

The path ABC is horizontal. There is friction force of $1.8N$ between between An and B, and the distance AB is 2meters.

1) Show that the speed of m_1 at B is   2.32 ms^{-1}

2) A othe body of mass $m_2 = 3$kg is placed at the rest at position B.

Therefore m_1 and m_2 will collide.

We suppose : - these two bodies will continues together is direction of point C,

       - there is no more any friction between B and C.

Find the commun speed of m_1 and m_2 at C.

3) Find the maximal distance moved by the two masse along the plane CD ($\theta = 12^0$, no friction afer C)