A block moves on the frictionless loop-the-loop shown. The initial position is at a height $h$ and has an initial velocity $v_0$. The block is to be considered very small.

(a) If $h = 2R$, calculate the minimum value of $v_0$ so that the block remains in contact with the loop all the way around.

(b) If $v_0 = (2gR)^{1/2}$ and $h = 2R$, calculate the normal force on the block at point B, exactly opposite the center of the loop.

(c) If $v_0 = (2gR)^{1/2}$ and $h = 2R$, calculate the normal force on the block at C, exactly at the bottom. (At C, the track is curved in the circular shape of the loop with radius $R$.)