

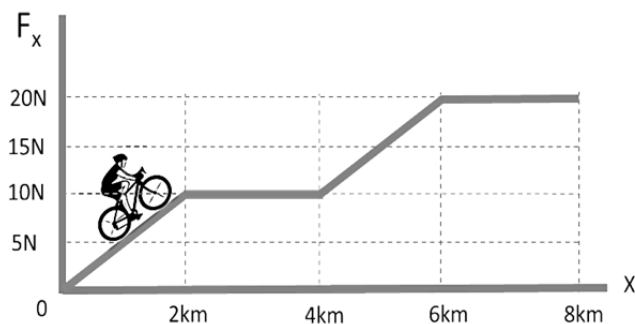
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Chapter 7-8, Serway; **ABSOLUTELY NO CHEATING!**

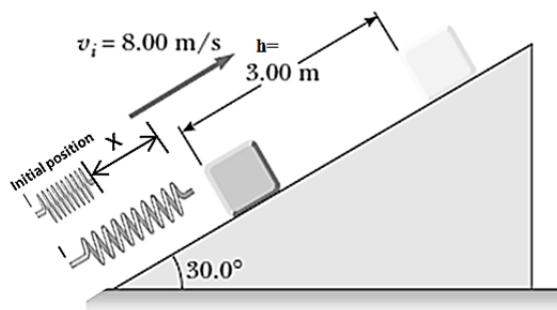
Please write down the answers on the blank space or on the back of this paper. Answer should be in english. [] indicates the question points.

Q1. Write down the equation of work under varying force. Suppose you are applying a varying force F_x to have mountain biking in Taiwan as shown in figure bellow. Calculate the work done by the force as you move from 0 km to 8 km. [50]

[Note: You don't need calculus to solve it. It is very similar to Quiz problem in chapter 7]



Q2. A 10 kg block is set into motion up with an initial speed of 8.00 m/s by compressing a spring as shown in figure. The block comes to rest after traveling 3.00 m along the plane, which is inclined at an angle of 30.0° to the horizontal. For this motion determine (a) the change in the block's kinetic energy, (b) the change in the potential energy of the block-Earth system and (c) If the spring applies 10 N forces to set it in motion, find out the distance x , the spring released from its initial position. The spring constant is 5 N/m [20+20+10 =50]



You may use the backside of the paper