

Module 08-Lesson 2

Gravitational Potential Energy

Question 1: Relative to the ground, what is the gravitational potential energy of a 1.0-kg dumbbell, which is lifted to a height of 2.2 meters above the ground?

Question 2: You fly from Vancouver's International Airport, at sea level, to Calgary, located at an altitude of 1,084 m. Taking your mass as 70 kg and the zero of potential energy at Vancouver, what is your gravitational potential energy (a) at the plane's 11-km cruising altitude and (b) in Calgary?

Problem: A skier starts from rest down a 30° frictionless slope. After a descent of 24 m, the slope temporarily levels out and then continues down at 20° descending an additional 36 m before levelling out again. Find the speed of the skier on each of the two level stretches.