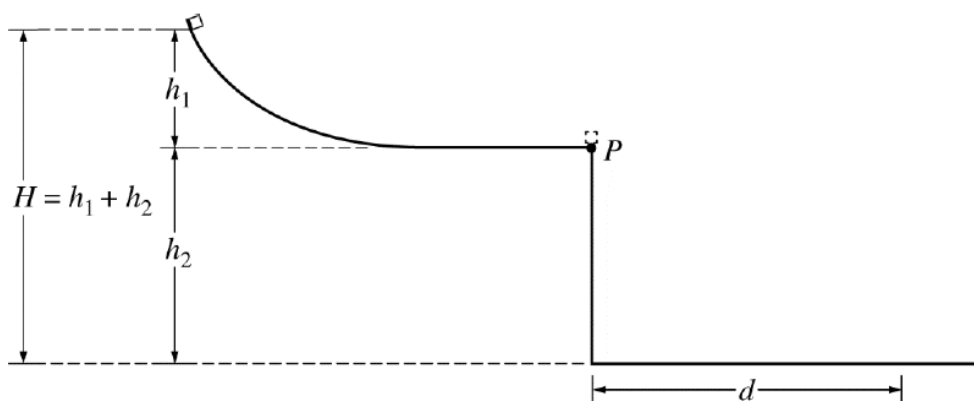


CW 1.5 Past AP-1 Question

Name:

This is a modified version of the first part of an AP question on projectiles.



A student releases a block from rest at the top of a slide of height, h_1 . The block slides down the frictionless slide and off the end at point P, which is at a height, h_2 , from the floor. The block hits the floor at a distance, d , from the end of the table. The overall height, H , is determined by the height of the lab ceiling and is fixed. The heights of the table and the slide are variable but must add up to the overall height H .

- Familiarize yourself with the experiment and sketch in the path of the block as it leaves the slide. Air resistance and friction are negligible. (1)
- Explain, *without using any equations*, why making the slide height, h_1 , short would cause the range, d , to be small even though the height of the table, h_2 , would be large. (3)

- Explain, *without using any equations*, why making the table height, h_2 , short would cause the range, d , to be small even though the height of the slide, h_1 , would be large. (3)