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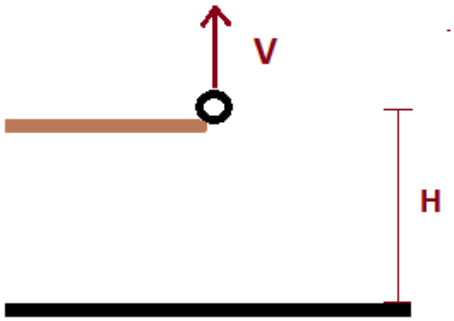
(11.04) - Free Response (Short Answer Worksheet)

A ball is projected vertically upward with velocity V from a platform of height H above ground.



1. Write an expression for the maximum height reached by the ball, above ground, in terms of the listed variables and fundamental constants.

2. Assuming the height H = 1.5 m and velocity V = 3.0 m/s, solve for the height reached by the ball *above the ground*.

3. The height of the ball, measured above the table, is recorded as D. If the initial velocity of the ball were doubled to 2V, what would change about the value of D? Circle one of the options below and explain your reasoning by analyzing proper physics equations.
    a. Remain the same
    b. Increase to twice as much
    c. Increase, but less than twice as much
    d. Increase to four times as much
    e. Increase somewhere between 2 and 4 times as much