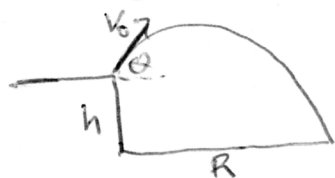


Note concerning the format of your hwk solutions

We ask you to begin each problem with an appropriate "problem statement" which summarizes all the relevant information, clarifying e.g., what are the inputs, what special circumstances apply, and what is the goal. Often you'll want to draw a picture and make reference to it. It is of course sufficient to simply copy the book's problem statement, but usually you can shorten things up quite a bit. For example, Morin 1.6 could read:



Projectile is launched from top of cliff of height h with speed v_0 and with angle θ chosen to maximize the range R . Which of the following might be the correct expression for R ?

After the problem statement, please explain the method of attack in just a few words. Likewise, when working through your solution, explain the key steps and conclusions in words. A solution which consists only of a string of equations is evidence that you've understood what is going on, but we want solutions which can be understood by a 3rd party. So again for Morin 1.6 we might write:

For each proposed expression we check units as well as the limiting cases $v_0 \rightarrow 0$ (when we expect $R \rightarrow 0$), $g \rightarrow 0$ (when we expect $R \rightarrow \infty$) and $h \rightarrow 0$ (when we expect $R \rightarrow$ some multiple of v_0^2/g)

With such a clear statement of the roadmap it is then quite to run through explaining the rest of the problem:

$$R \stackrel{?}{=} \frac{gh^2}{v^2}$$

$$\text{units: } \left[\frac{L}{T^2}\right] \cdot [L]^2 \cdot \left[\frac{L}{T}\right]^{-2} = L \checkmark$$

$$h \rightarrow 0 \Rightarrow R \rightarrow 0?! \text{ fails this check, but for completeness we go on}$$

$$v \rightarrow 0 \Rightarrow R \rightarrow \infty?! \text{ X}$$

$$g \rightarrow 0 \Rightarrow R \rightarrow 0?! \text{ X}$$

Note I have no objection to brief strings of condensed symboliz notation, just supply enough connective words so the meaning is clear.