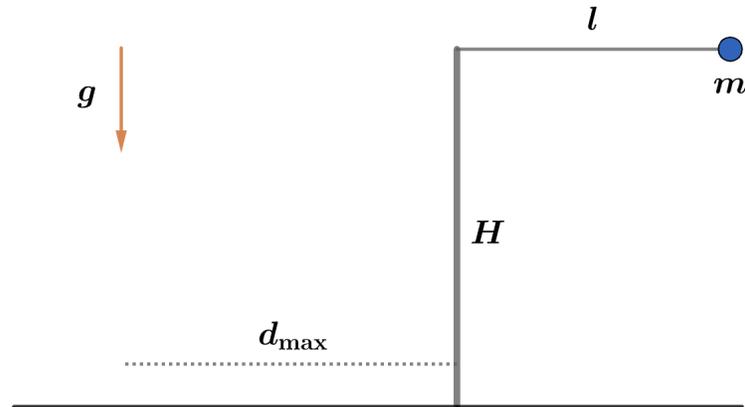


2024 F=ma Exam: Problem 16

Kevin S. Huang



We can do dimensional analysis to find $d_{\max} = d_{\max}(l, H, g)$. We have

$$[d_{\max}] = L$$

$$[l] = L$$

$$[H] = L$$

$$[g] = \frac{L}{T^2}$$

Since g is the only input that has dimensions of time, d_{\max} must be independent of g so the answer is C.