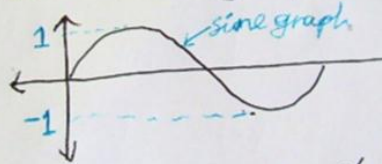


Problem #69

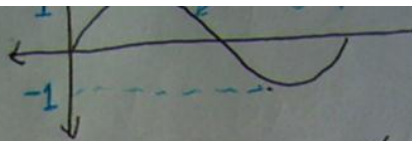
$$(b) R(t) = \frac{v_0^2 \sin(2t)}{g}$$

Remember sine graph



Since $-1 \leq \sin(2t) \leq 1$, therefore $R(t)$ from the equation above will reach max when $\sin(2t) = 1$

$$\Rightarrow R(t) = \frac{v_0^2(1)}{9.8} = \frac{(34.8)^2}{9.8} = 123.576$$



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(c) Plot the graph by hand and take a picture put it on the powerpoint

NB: Amplitude = ?, period = ?, the graph must be half the period

(d) Use online calculator to plot the graph, estimate amplitude and x-intercepts from your calculator graph.