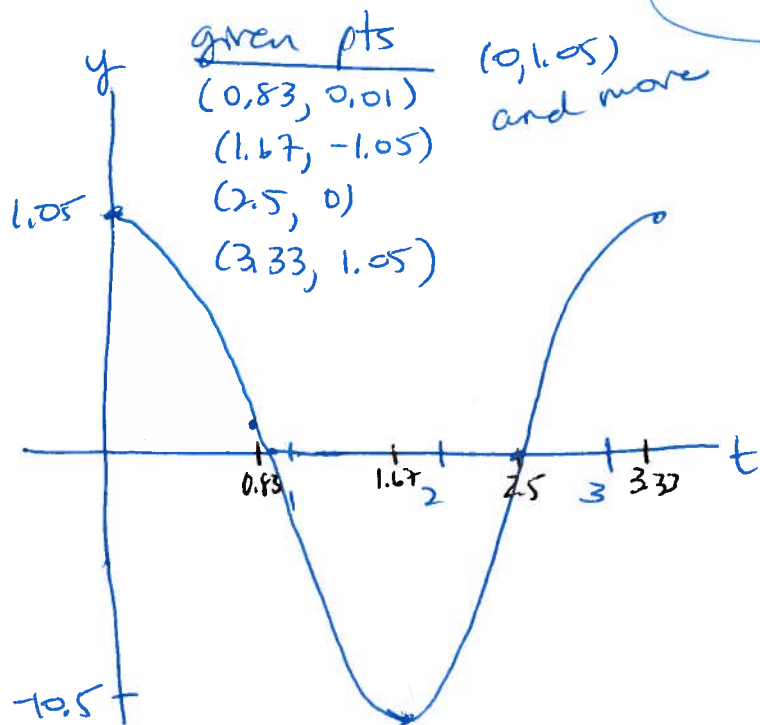


5.4 #51



* Note: I think there is a typo in this problem. Both tables should be labeled "time / position."

The graph looks something like this and we want to find a fn that satisfies these pts, recognizing that a pendulum oscillates exactly like a sine or cosine curve.

It seems like a cosine curve would model this best with no shifting.

It looks like period is ≈ 3.33

$$\Rightarrow \frac{2\pi}{b} = 3.33 \Rightarrow b \approx 1.887 \approx 1.9$$

$$\Rightarrow y = 1.05 \cos(1.9t)$$

would be a reasonable fn to model this data