(a) How much time for body to reach max speed?

<table>
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<th>See Fig. 13/5 a fig. 17</th>
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\[ v_{\text{max}} \text{ will occur at } \frac{1}{4} \text{ of the period of oscillation} \]

\[ (90, 13.34, 4.485) \]

\[ T = 0.25 \sqrt{\frac{L}{g}} \]

We want \( T = \frac{T}{4} \) to divide both sides by 4.

\[ t_{\text{max}} = T \left( \frac{1}{4} \right) = \frac{T}{4} \]

\[ \ell = \frac{L}{4} = \frac{0.240 m}{4} = 0.060 m \]

\[ \sqrt{\frac{R}{g}} = \frac{0.060}{0.15} \]

\[ t_{\text{max}} = 0.25s \]

(b) How much time if pendulum released at \( \theta = 1.75^\circ \)?

\[ \text{Use eqn. 12.34 if no dependence on amplitude (small angle approx.)} \]

\[ t_{\text{max}} = 0.25s \]

\[ \text{Recall that if hypotenuse clock work!} \]