The length $l$ of a simple pendulum, the mass $m$ of the pendulum bob, the gravitational acceleration $g$ and the angular amplitude of the bob $\theta_0$ are all possible quantities that may enter into a relationship for the period of the pendulum swing. Using dimensional analysis, find (up to a dimensionless multiplicative function) a function $f$

$$T_{\text{period}} = f(l, m, g, \theta_0)$$

for the time it takes the pendulum to complete one full swing (the period of the pendulum).