

**Problem 108E**

This question concerns the shape of a two-dimensional pendant drop of liquid of density,  $\rho$ , and surface tension,  $S$ ; the acceleration due to gravity is denoted by  $g$ . Identify the equation that governs the shape of such a drop; put it in non-dimensional form using the typical distance,  $(S/\rho g)^{1/2}$ . Identify the only non-dimensional parameter which appears in this equation and therefore leads to a single parameter family of shapes for the pendant drop.

