Root solver to find alternate depth.

$g(y) := y^3 - 12.5y^2 + 1.353$ First guess: $y := .5$ (units of feet)

$h := root(g(y), y)$ $h = 0.3335$

The first guess yields the original supercritical depth of .333 feet or 4 inches.

Second guess: $y := 10$

$h := root(g(y), y)$ $h = 12.4913$

The second guess yields the alternate depth of 12.5 feet. This is the subcritical flow depth.