2) $d = 10m$, $V_{max} = 471\ m^3$, $V = \frac{\pi}{3} \cdot h^2(3r - h)$

$V = \frac{\pi}{3} \cdot h^2(3r - h) \quad \| -V$

$0 = \frac{\pi}{3} \cdot h^2(3r - h) - V \Rightarrow f(h) = \frac{\pi}{3} \cdot h^2(3r - h) - V, \quad f'(h) = -\pi x(x - 2r)$

$h_0 = 9$

$h_1 = h_0 - \frac{f(h_0)}{f(h_0)} = 9 - \frac{57.938}{28.274} = 7.658$

$h_2 = 8.015$

$h_3 = 8.037$

$h_4 = 8.037$