

a) The flow out of a tank with cross-sectional area A is given by $f_0 = \alpha H^{1/2}$, $H \geq 0$ where α is a constant and $H = H(t)$ is the tank level at time t . For a tank with $H(0) = H_0$ and no inflow, find the flow out $f_0(t)$. You may use any equations from the text or projects. (5 pts)

b) Sketch the function $f_0(t)$ for the case when $A = 10 \text{ ft}^2$, $H_0 = 9 \text{ ft}$ and $\alpha = 2 \text{ ft}^3 / \text{min per ft}^{1/2}$. (5 pts)

