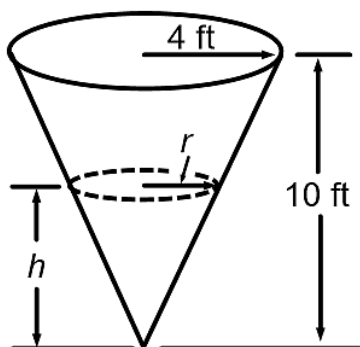


At time $t = 0$ min the conical tank shown is filled with water. Water is drained from the bottom of the tank at a rate of $\frac{1}{6}\sqrt{h}$ ft³/min, where $h = h(t)$ is the current depth of the water.



Find $h = h(t)$. *Hint:* Use similar triangles to express the volume of water in the tank in terms of h only. Also find the time it takes to drain the tank.