

[mex101] **A drop of fluid disappearing**

A spherical drop of fluid with mass density ρ , initially of radius r_0 , shrinks at a rate that is proportional to its size. Find the radius of the drop as a function of time.

(a) Assume that the mass decreases at a rate proportional to the surface area of the drop as a result of evaporation.

(b) Assume that the mass decreases at a rate proportional to the volume of the drop as a result of some kind of chemical instability.