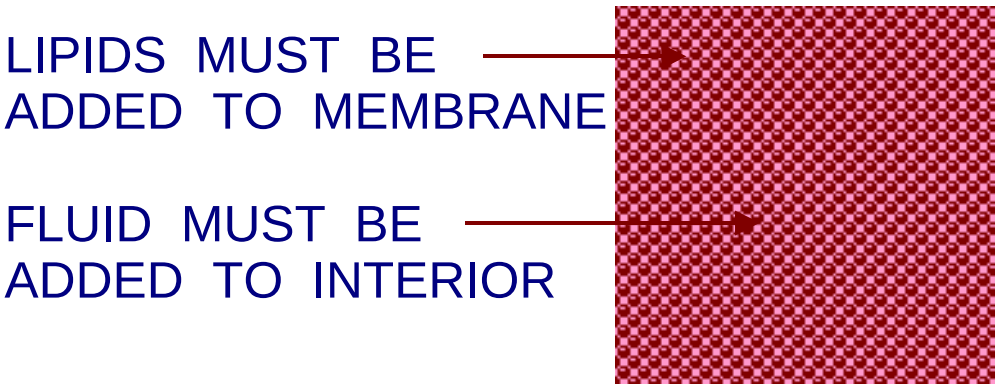
SIMPLE MODEL FOR CELL GROWTH

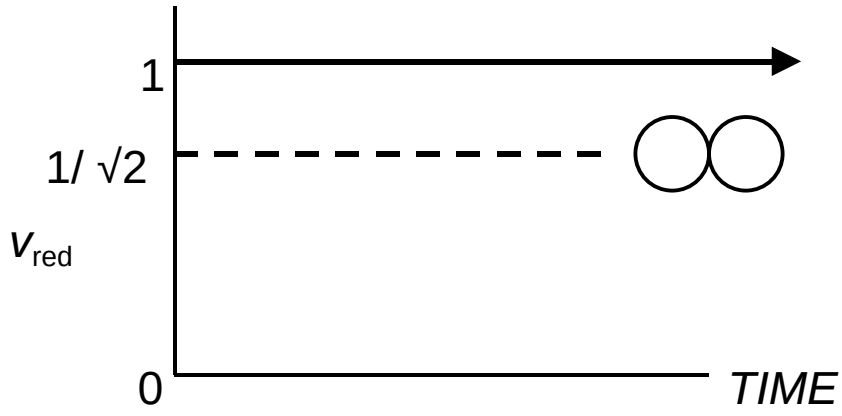


ASSUME THAT

- CONCENTRATION OF NUTRIENTS IS CONSTANT
- LIPID ADDITION RATE IS INDEPENDENT OF MEMBRANE CURVATURE

$dA / dt = \lambda A$ $\quad\quad$ λ = LIPID ADDITION RATE

IF VOLUME INCREASE MAINTAINS SPHERICAL SHAPE:



IN THIS GROWTH DOMAIN

$R(t) = R_o \exp(\lambda t / 2)$

$A(t) = A_o \exp(\lambda t)$ $\quad\quad$ (SPHERE)

$V(t) = V_o \exp(3\lambda t / 2)$