Notecards Differential Equations

1	What is the equation for Exponential Growth/Decay? What is the derivative of that equation?	$P(t) = P_0 e^{kt}$ P_0 — initial amount k — growth rate $P'(t) = ky$
2	Doubling Times? Half Life? Tripling Time?	Doubling time $= \dfrac{ln2}{k}$ Half Life $= \dfrac{ln2}{k}$ Tripling Time $= \dfrac{ln3}{k}$
3	What is the formula for Euler's Method?	(table below)

x	$y(previous) + \dfrac{d}{dx}(previous) \cdot \Delta x$	y
$x + \Delta x$		
$x + 2\Delta x$		
$x + 3\Delta x$		
………		