

Constants		
R = 0.08205783 (L·atm)/(mol·K) = 8.314510 J/(mol·K) or (kPa·dm ³)/(K·mol)		
Ci = 3.700 x 10 ¹⁰ disintegrations/s		
c = 3.00 x 10 ⁸ m/s		
1 atm = 1.013 x 10 ⁵ Pa = 760 torr = 760 mm Hg		
F = 9.65 x 10 ⁴ C/mol e ⁻		
Key formulas and Relationships		
E = mc ²		
A = C/s		
PV = nRT		
CV = J		
t _{1/2} = 0.693/k		
t _{1/2} = 1/k[A] ₀		
$t_{1/2} = \frac{[A]_0}{2k}$		
ln[A] _t / [A] ₀ = -kt		
ln[A] _t = -kt + ln[A] ₀		
$\ln \left[\frac{k_2}{k_1} \right] = \left[\frac{E_a}{R} \right] \left(\frac{1}{T_1} - \frac{1}{T_2} \right)$		
$\frac{1}{[A]_t} = kt + \frac{1}{[A]_0}$		
[A] _t = -kt + [A] ₀		
ln(N _t /N ₀) = -kt		
$pH = pK_a + \log \left(\frac{\text{conj. base}}{\text{conj. acid}} \right)$		
ΔG° = -nFE°		
$E = E^0 - \frac{RT \ln Q}{nF}$	$E = E^0 - \frac{2.303RT \log Q}{nF}$	@298K $E = E^0 - \frac{0.0592 \log Q}{nF}$
@298K logK = nE°/0.0592		
ΔE = q + w	w = -PΔV	
ΔH° = ΣnH°(products) - ΣnH°(reactants)		
ΔS° = ΣnS°(products) - ΣnS°(reactants)		
ΔS° = ΣnG°(products) - ΣnG°(reactants)		
ΔG° = ΔH° - TΔS°		
ΔG = ΔG° + RTlnQ	ΔG = ΔG° + 2.303RTlogQ	
ΔG° = -RTlnK	ΔG° = -2.303RTlogK	

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