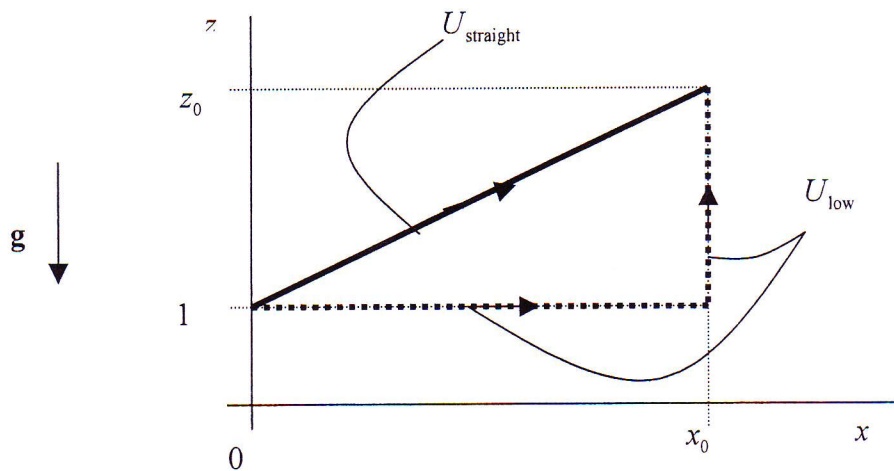


Inequality Between the Three Potential Energy Results, And Describe Why Each Path Could Be a Candidate For the Minimum Potential Energy Path.



Some Basic Mathematical Identities That May Be Useful Are:

$$\frac{d}{dx} e^x = e^x, \frac{d}{dx} \sin x = \cos x, \frac{d}{dx} \cos x = -\sin x, \frac{d}{dx} \tan x = \sec^2 x,$$

$$\frac{d}{dx} x^n = nx^{n-1}, \frac{d}{dx} \sinh x = \cosh x, \frac{d}{dx} \cosh x = \sinh x, \frac{d}{dx} \tanh x = \text{sech}^2 x,$$

$$\cos^2 x + \sin^2 x = 1, \cosh^2 x - \sinh^2 x = 1, \cosh x = (e^x + e^{-x})/2, \sinh x = (e^x - e^{-x})/2,$$

$$\cos^2 x = [1 + \cos(2x)]/2, \sin^2 x = [1 - \cos(2x)]/2,$$

$$\cosh^2 x = [\cosh(2x) + 1]/2, \sinh^2 x = [\cosh(2x) - 1]/2,$$

$$\sin x \approx x - x^3/6, \cos x \approx 1 - x^2/2, \sinh x \approx x + x^3/6, \cosh x \approx 1 + x^2/2, e^x \approx 1 + x, (1+x)^\alpha \approx 1 + \alpha x$$