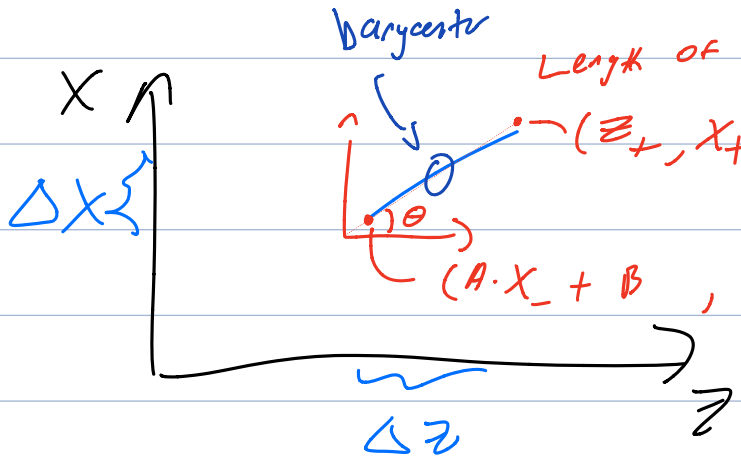
New way using trig:



Length of red line: $\ell_{xz} = \sqrt{\Delta x^2 + \Delta z^2}$

$(z_+, x_+) = (A \cdot x_+ + B,\ x_{avg} + \Delta x_+)$

$(A \cdot x_- + B,\ x_{avg} + \Delta x_-)$

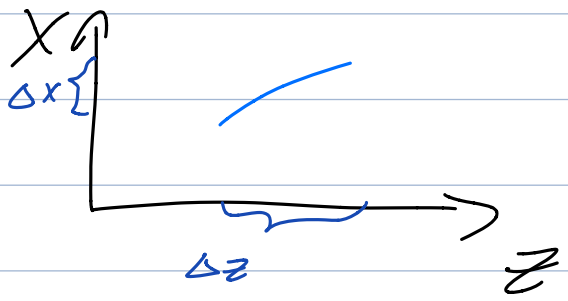
End point to the right:

$\tan\theta = \frac{\Delta x}{\Delta z}$

$\sin\theta = \frac{\Delta x_+}{\ell_{xz}/2}$

$\Delta x_\pm = \pm \frac{\ell_{xz}}{2} \cdot \sin\left(\tan^{-1}\left(\frac{\Delta x}{\Delta z}\right)\right)$

Old way using algebra:



Linear fit: $z = Ax + B$

Approximate lengths in this projection:

$\ell_{xz} = \sqrt{\Delta x^2 + \Delta z^2}$

$$z - z_{bc} = A(x - x_{bc})$$

What 2 points are $\ell_{xz}/2$ away?

$$\sqrt{(z - z_{bc})^2 + (x - x_{bc})^2} = \ell_{xz}$$

$$z - z_{bc} = A(x - x_{bc})$$

Solve system of equations

$$x_{\pm} = 2A(z-B) + 2x_{bc} \pm \frac{\sqrt{A^2(l_{xz}^2 - 4x_{bc}^2) - 8ABx_{bc} + 8Ax_{bc}z_{bc} - 4B^2 + 8Bz_{bc} + l^2 - 4z_{bc}^2}}{2(A^2+1)}$$