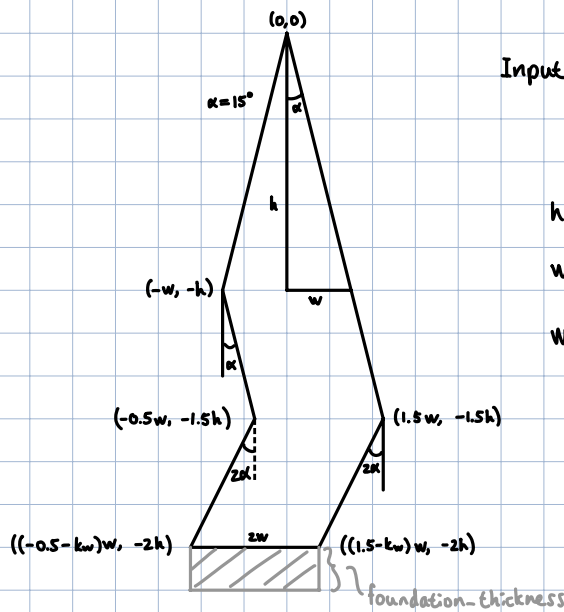


V.1.1

Input parameters: tile-height, tile-width,  $\alpha$ , foundation-thickness



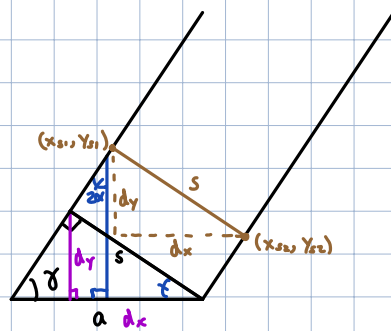
$$h = \frac{1}{2} \cdot \text{tile-height}$$

$$w = h \tan \alpha$$

$$w_2 = \frac{h}{2} \tan(2\alpha) = \frac{1}{2} \frac{2h \tan \alpha}{1 - \tan^2 \alpha} = \frac{1}{1 - \tan^2 \alpha} \frac{h \tan \alpha}{2}$$

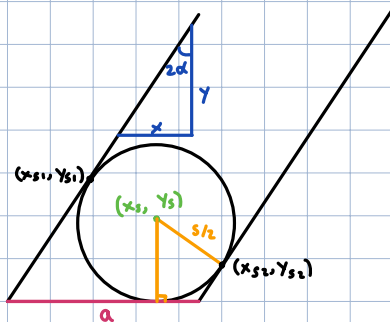
$$\alpha = \text{tile-len} - 2w$$

$$S = a \cos(2\alpha)$$



$$\begin{cases} dy = S \sin(2\alpha) \\ dx = S \cos(2\alpha) \end{cases}$$

$$\begin{cases} y_{s2} = y_{s1} - dy \\ x_{s2} = x_{s1} + dx \end{cases} \quad (1)$$



$$y = \frac{1}{\tan(2\alpha)} x = kx \quad (2)$$

$$\begin{cases} x_s = \frac{x_{s1} + x_{s2}}{2} \\ y_s = \frac{y_{s1} - y_{s2}}{2} \end{cases}$$

$$\frac{y_{s1} + y_{s2}}{2} = \frac{S}{2}$$

$$y_{s2} = S - y_{s1} \quad (3)$$

$$(1) + (3): S - y_{s1} = y_{s1} - dy$$

$$2y_{s1} = S + dy$$

$$y_{s1} = \frac{S + dy}{2}$$

$$y_{s2} = \frac{S - dy}{2}$$

$$\begin{cases} x_{s1} = \frac{S + dy}{2k} \\ x_{s2} = \frac{S + dy}{2k} + dx \end{cases} \quad (2)$$

