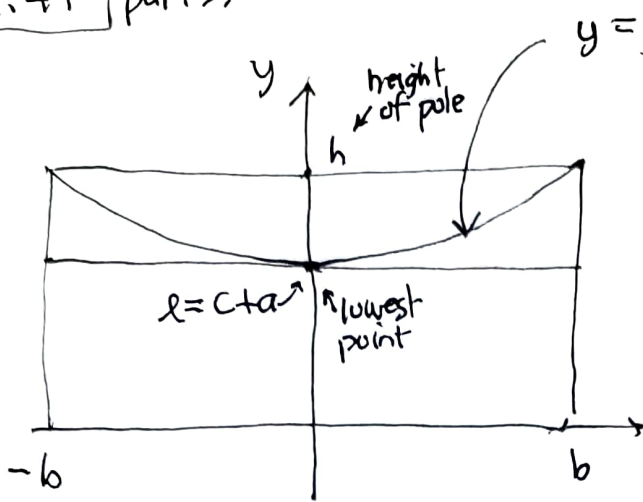


8.1.44 part b)



$$y = f(x) = c + a \cosh \frac{x}{a}$$

$$f(0) = c + a = l$$

$$f(b) = c + a \cosh \frac{b}{a} \equiv h$$

Problem:

Given b, L, l , find h

$$L = 2a \sinh \frac{b}{a} \quad \left. \begin{array}{l} \text{part a) result} \\ \text{given} \end{array} \right\}$$

↓ given

↘ numerically solve for a

example (textbook numbers)

Given $b = 25$ (separation 50)

and $L = 2b + 1 = 51$

solve this condition for a ,

$l = c + a$ is also specified, so
then solve for $c = a - l$

Finally evaluate $h = c + a \cosh \frac{b}{a}$.