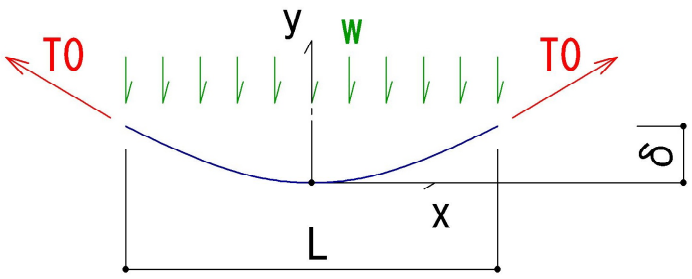
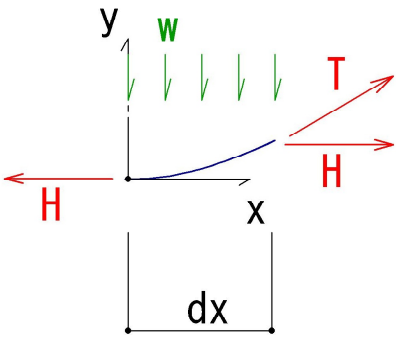


$$\frac{dy}{dx} = \frac{W}{H}$$

$$W = \int_0^x w(x)\,dx$$

$$\frac{dy}{dx} = \int_0^x w(x)\,dx \quad / H$$



$$\frac{d^2y}{dx^2} = w(x)/H$$

$$\frac{dy}{dx} = \frac{w}{H}x + C_1$$

$$y = \frac{w}{2H}x^2 + C_1x + C_2$$ 曲線の式

$x = 0$ で $\frac{dy}{dx} = 0$ より $C_1 = 0$

$x = 0$ で $y = 0$ より $C_2 = 0$

$x = L/2$ で $y = \delta$ なので 曲線の式に入れて

$$\delta = \frac{w\,L^2}{8\,H}$$