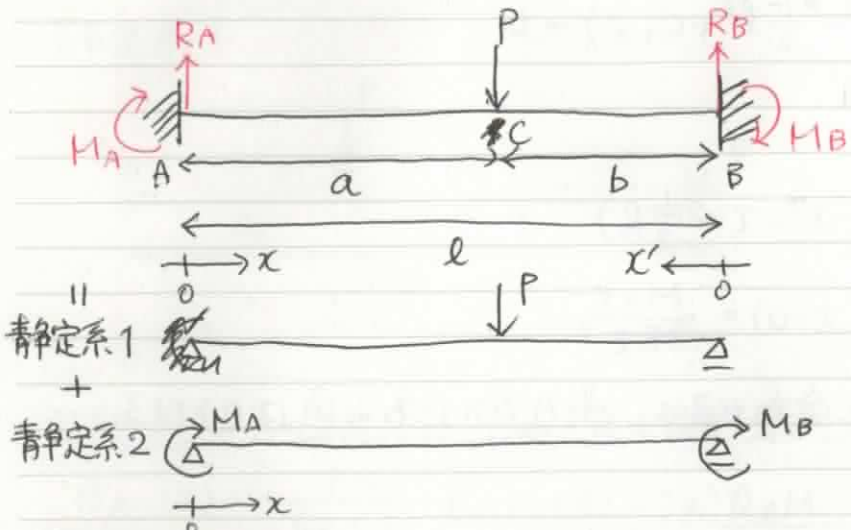
No.
Date.

両端固定はり



静定系1.

点Aでのたわみ角 $\theta_{AC}(x=0) = \dfrac{Pab(b+\ell)}{6EI\ell}$

区間BCでのたわみ角分布

$\theta_{BC}(x') = \dfrac{Pab(\ell+a)}{6EI\ell}\left(b(\ell+a)-3x'^2\right)$

点Bでのたわみ角 $\theta_{BC}(x'=0) = \dfrac{Pab(\ell+a)}{6EI\ell}$

x軸の向きで考えると, $\theta_{CB}(x=\ell) = -\dfrac{Pab(\ell+a)}{6EI\ell}$

静定系2.

曲げモーメント分布 $M(x) = M_A - \dfrac{M_A+M_B}{\ell}x$

たわみ角分布 $\theta(x) = \int \dfrac{1}{EI}\left(\dfrac{M_A+M_B}{2\ell}x^2 - M_Ax + C_1\right)$

たわみ分布 $y(x) = \dfrac{1}{EI}\left(\dfrac{M_A+M_B}{6\ell}x^3 - \dfrac{M_A}{2}x^2 + C_1x + C_2\right)$

$y(0)=0 \quad \therefore C_2=0.$

$y(\ell)=0. \quad \therefore C_1=\dfrac{2M_A-M_B}{6}\ell$

$\theta(0)=\dfrac{2M_A-M_B}{6EI}\ell$

$\theta(\ell)=-\dfrac{M_A-2M_B}{6EI}\ell$

静定系1と2を足し合わせると，点AとBでθが0になる．

$$\frac{Pab(b+\ell)}{6EI\ell}+\frac{2M_A-M_B}{6EI}\ell=0$$

$$-\frac{Pab(\ell+a)}{6EI\ell}-\frac{M_A-2M_B}{6EI}\ell=0$$

$$\therefore M_A=-\frac{Pab^2}{\ell^2}, \quad M_B=\frac{Pa^2b}{\ell^2}$$

~~$R_A=-\dfrac{M_A+M_B}{\ell}$~~

鉛直方向の釣合い：$R_A+R_B-P=0$

モーメントの釣合い：$M_A+M_B+R_A\ell-Pb=0.$

$$\therefore R_A=\frac{Pb^2(\ell+2a)}{\ell^3}, \quad R_B=\frac{Pa^2(\ell+2b)}{\ell^3}$$