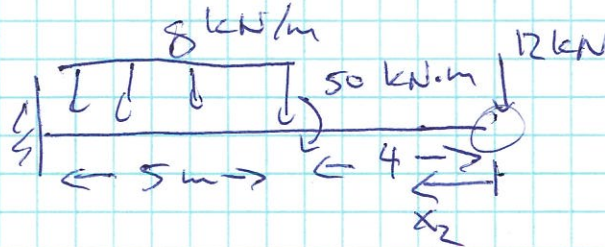


$$M(x_2) = -\frac{w_0}{2} \langle x-a \rangle^2 + \frac{w_0}{2} \langle x-2 \rangle^2$$

12.5



$$\begin{aligned} & \uparrow F_0 \\ & \uparrow P \\ & \uparrow w_0 \end{aligned} \quad \begin{aligned} & M_0 \langle x-a \rangle^{-2} \\ & P \langle x-a \rangle^{-1} \\ & w_0 \langle x-a \rangle^0 \end{aligned}$$

$$\begin{aligned} EI \frac{d^2 v}{dx^2} &= M(x_2) = -12 \langle x-0 \rangle^1 - 50 \langle x-4 \rangle^0 - \frac{8}{2} \langle x-4 \rangle^2 \\ EI \frac{dv}{dx} &= -6 \langle x-0 \rangle^2 - 50 \langle x-4 \rangle^1 - \frac{4}{3} \langle x-4 \rangle^3 + C_1 \\ EI v &= -2 \langle x-0 \rangle^3 - 25 \langle x-4 \rangle^2 - \frac{1}{3} \langle x-4 \rangle^4 + C_1 x + C_2 \end{aligned}$$

(1) $v(0) = 0$ $dv/dx(0) = 0$ (2)

(2) $0 = -6(0)^2 - 50(5) - \frac{4}{3}(5)^3 + C_1$
 $C_1 = 902.7$

(1) $0 = -2(0)^3 - 25(5)^2 - \frac{1}{3}(5)^4 + 902.7(0) + C_2$
 $C_2 = -5833$

$EI v(0) = -5833$