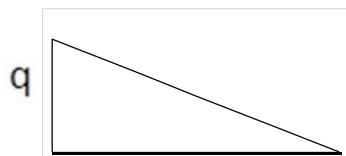
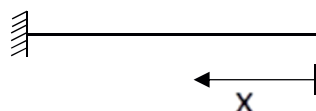


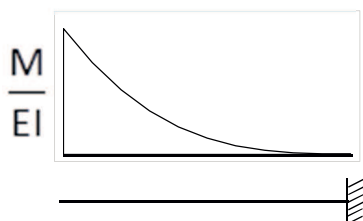
$$M(x) = q_1 \frac{x^3}{6L} \quad M(L) = q_1 \frac{L^2}{6}$$



$$q(x) = q_1 \frac{x}{L}$$



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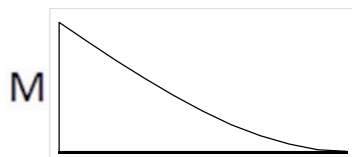


$$V(P) = \int_0^L q_1 \frac{x^3}{6LEI} dx = \frac{q_1}{6LEI} \left| \frac{x^4}{4} \right|_0^L = \frac{q_1 L^3}{24EI}$$

$$\varphi(P) = \frac{q_1 L^3}{24EI}$$

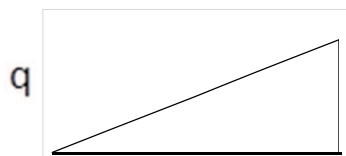
$$M(P) = \int_0^L q_1 \frac{x^3}{6LEI} x dx = \frac{q_1}{6LEI} \left| \frac{x^5}{5} \right|_0^L = \frac{q_1 L^4}{30EI}$$

$$\delta(P) = \frac{q_1 L^4}{30EI}$$

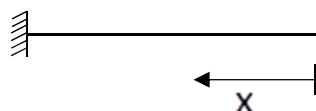


$$M(x) = q_2 \frac{L-x}{L} \frac{x}{2} \frac{x}{3} + q_2 \frac{x}{2} \frac{2x}{3} = q_2 \left[\frac{x^2}{2} - \frac{x^3}{6L} \right]$$

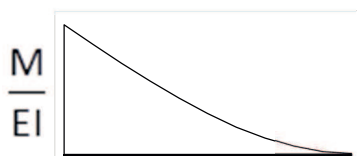
$$M(L) = q_2 \frac{L^2}{3}$$



$$q(x) = q_1 \frac{L-x}{L}$$



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$$V(P) = \frac{q_2}{EI} \int_0^L \left[\frac{x^2}{2} - \frac{x^3}{6L} \right] dx = \frac{q_2}{EI} \left[\frac{x^3}{2 \times 3} - \frac{x^4}{6L \times 4} \right]_0^L = \frac{q_2 L^3}{8EI}$$

$$\varphi(P) = \frac{q_2 L^3}{8EI}$$

$$M(P) = \frac{q_2}{EI} \int_0^L \left[\frac{x^2}{2} - \frac{x^3}{6L} \right] x dx = \frac{q_2}{EI} \left[\frac{x^4}{2 \times 4} - \frac{x^5}{6L \times 5} \right]_0^L = \frac{11}{120} \frac{q_2 L^4}{EI}$$

$$\delta(P) = \frac{11}{120} \frac{q_2 L^4}{EI}$$