

$$= \int_0^4 \frac{1}{2} x (16 - 8x + x^2) dx$$

$$= \frac{1}{2} \int_0^4 (16x - 8x^2 + x^3) dx$$

$$= \frac{1}{2} \left[\frac{16x^2}{2} - \frac{8x^3}{3} + \frac{x^4}{4} \right]_0^4$$

$$= \frac{1}{2} \left[8(4)^2 - \frac{8}{3}(4)^3 + \frac{4^4}{4} \right]$$

$$= 10.667 \text{ KNm}$$

$$\bar{x} = \frac{10.667}{10.667} = 1 \text{ m. from A.}$$