

例题四



梁的弯曲

在简支梁上作用均布载荷 q ，试列出梁的剪力、弯矩方程，并绘出 Q 、 M 图。

解： $R_A = R_B = \frac{ql}{2}$

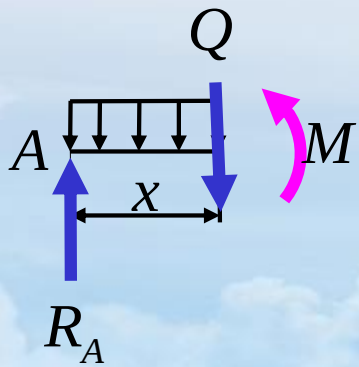
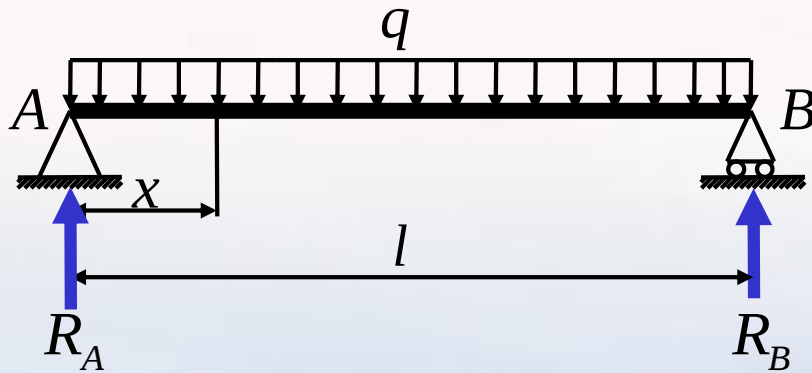
$$\sum F_y = 0, -Q + R_A - qx = 0$$

$$Q = R_A - qx = \frac{ql}{2} - qx$$

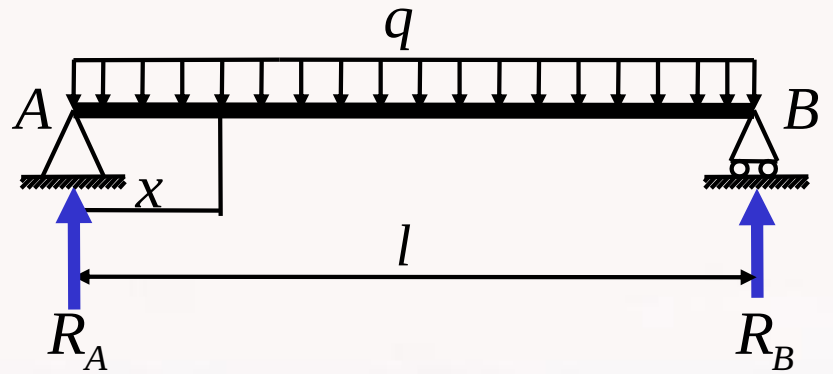
$$\sum m_o = 0, M + qx \cdot \frac{1}{2}x - R_A x = 0$$

$$M = R_A x - \frac{1}{2}qx^2 = \frac{ql}{2}x - \frac{1}{2}qx^2$$

$(0 \leq x \leq l)$



梁的弯曲



$$Q = \frac{ql}{2} - qx$$

$$M = \frac{ql}{2}x - \frac{1}{2}qx^2$$

$$(0 \leq x \leq l)$$

