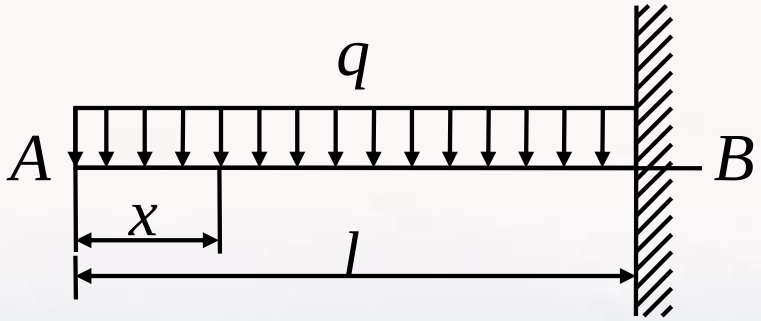
例题二

梁的弯曲

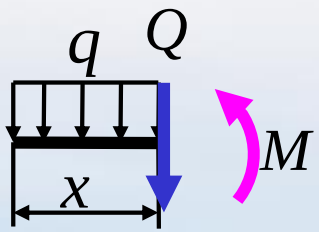
在悬臂梁的自由端作用均布载荷q，试列出梁的剪力、弯矩方程，并绘出Q、M图。



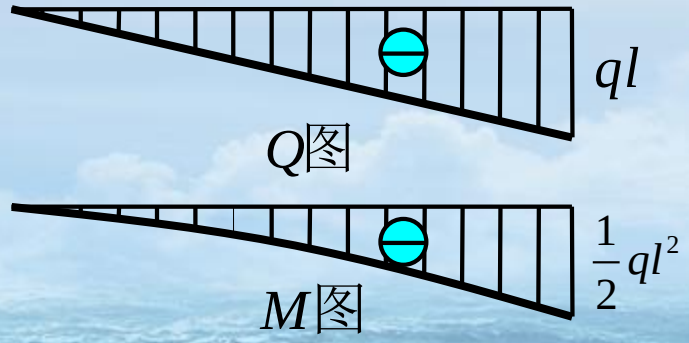
解：

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

$$Q = -qx \quad (0 \le x < l)$$



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



$$M = -\frac{qx^2}{2} \quad (0 \le x < l)$$