因为：$(\text{前后})' = \text{前}' \cdot \text{后} + \text{前} \cdot \text{后}'$

即：$\text{前} \cdot \text{后}' = (\text{前后})' - \text{前}' \cdot \text{后}$

两边积分，即：
$$\int (\text{前} \cdot \text{后}')dx = \int [(\text{前后})' - \text{前}' \cdot \text{后}]dx$$
$$= \underbrace{\int \left[\underbrace{(\text{前后})'}_{\text{导函数}}\right]dx}_{\text{原函数，就}=\text{前后}} - \int [\text{前}' \cdot \text{后}]dx$$
$$= \text{前后} - \int [\text{前}' \cdot \text{后}]dx \qquad ①$$
$$\int \text{前} \cdot \underbrace{\text{后}'\ dx}_{=d(\text{后})} = \text{前后} - \int \text{后} \cdot \underbrace{\text{前}'\ dx}_{=d(\text{前})}$$

即：$$\int \text{前}\ d(\text{后}) = \text{前后} - \int \text{后}\ d(\text{前}) \qquad ②$$

上面①和②式，就是“分部积分法”公式