♢♡Fundamental Theorem for Line Integrals♡♢
(線積分基本定理)

Let $\mathcal{C}$ be a smooth oriented curve on $D \subseteq \mathbb{R}^3$
(令$\mathcal{C}$爲$D \subseteq \mathbb{R}^3$上一條圓滑有向的曲線)

$$\mathcal{C} : \vec{\gamma}(t) = x(t)\vec{i} + y(t)\vec{j} + z(t)\vec{k}, \quad t \in [a, b]$$

Then we have (則我們有)

$$\int_{\mathcal{C}} \vec{\nabla} f \cdot d\vec{\gamma} = f(\vec{\gamma}(b)) - f(\vec{\gamma}(a))$$