



$$\textcircled{1} g(y) = \int_{x_1(y)}^{x_2(y)} f(x, y) dx$$

$$\begin{aligned} \textcircled{2} \iint_D f(x, y) dx dy &= \int_c^d g(y) dy \\ &= \int_c^d \left[\int_{x_1(y)}^{x_2(y)} f(x, y) dx \right] dy \\ &= \int_c^d dy \int_{x_1(y)}^{x_2(y)} f(x, y) dx \end{aligned}$$