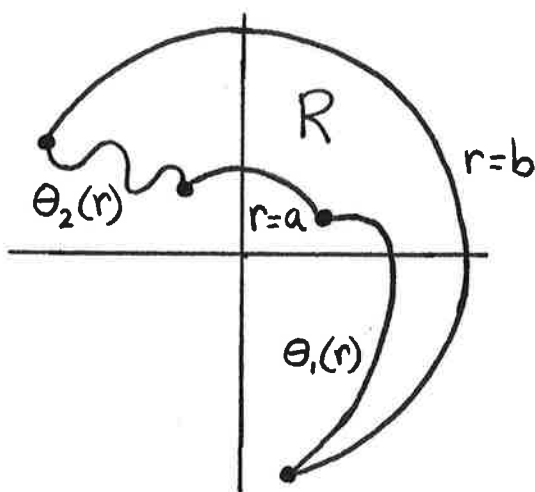


§19

If $f: \mathbb{R}^2 \rightarrow \mathbb{R}$ and $R = \{(x, y) : a \leq x \leq b, c \leq y \leq d\}$, then

$$\iint_R f(x, y) dA = \int_a^b \int_c^d f(x, y) dy dx = \int_c^d \int_a^b f(x, y) dx dy$$

$$R = \{(r, \theta) : a \leq r \leq b, \theta_1(r) \leq \theta \leq \theta_2(r)\}$$



$$S = \{(r, \theta) : \alpha \leq \theta \leq \beta, r_1(\theta) \leq r \leq r_2(\theta)\}$$

