Exercise. *Let ω be an n-form and ν an m-form.Show that*

$$\omega \wedge \nu = (-1)^{nm} \nu \wedge \omega.$$

Proof. Without loss of generality we assume that $\omega = dx_1 \wedge dx_2 \cdots \wedge dx_n$,and $\nu = dy_1 \wedge dy_2 \wedge \cdots \wedge dy_m$.Then

$$\omega \wedge \nu = dx_1 \wedge dx_2 \cdots \wedge dx_n \wedge dy_1 \wedge dy_2 \wedge \cdots \wedge dy_m.$$

□