

Integral Dupla

Exemplo

$$I(x,y) = \int_0^x \int_0^y f(x,y) dx dy ;$$

$$I(x,y) = \int_0^1 \int_0^1 x \cdot y \cdot dx dy \rightarrow \int_0^1 x dx \cdot \left[\frac{y^2}{2} \right]_0^1$$

$$I(x,y) = \int_0^1 \frac{1}{2} x dx \rightarrow \frac{1}{2} \cdot \frac{x^2}{2} \Big|_0^1 = \frac{1}{2} \cdot \frac{1}{2}$$

$$I(x,y) = \frac{1}{4}$$

exemplo 2:

$$I(x,y) = \int_0^1 \int_0^1 x \cdot y \cdot dx dy \rightarrow \int_0^1 x dx \left[\frac{y^2}{2} \right]_0^1$$

$$I(x,y) = \int_0^1 x dx \left[\frac{x^2}{2} \right]_0^1 \rightarrow \int_0^1 \frac{x^3}{2} dx$$

$$I(x,y) = \frac{1}{2} \cdot \frac{x^4}{4} \Big|_0^1 \rightarrow I(x,y) = \frac{1}{2} \cdot \frac{1}{4}$$

$$I(x,y) = \frac{1}{8}$$