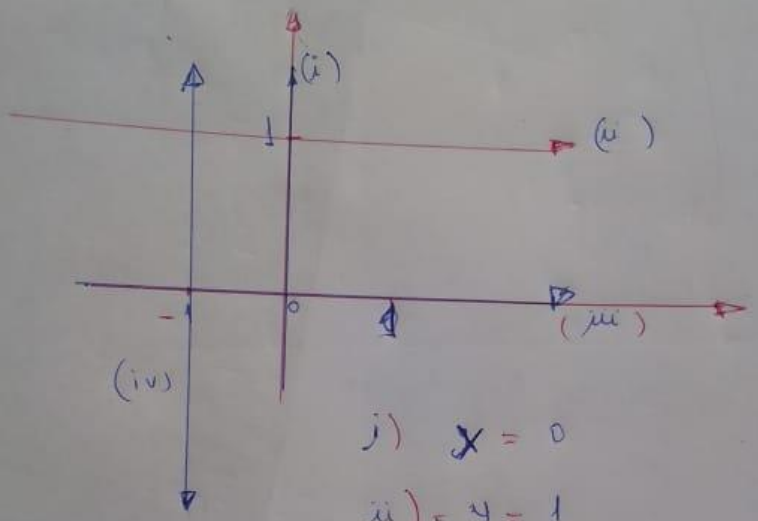
s

$$\int\int_D \frac{3x^2\sqrt{y} - 4y}{x^2 - 4}\, dA$$

D es el cuadrado $[-1, 0] \times [0, 1]$



i) $x = 0$

ii) $y = 1$

iii) $y = 0$

(iv) $x = -1$

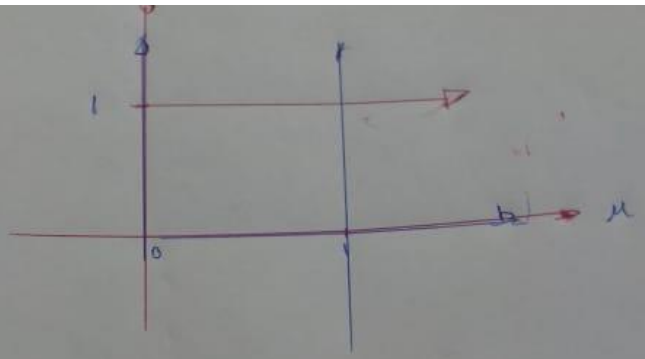
- $x = \sqrt{u}$ $\quad u = x^2$ $\quad \circ\ u = \sqrt{x^2}$
- $y = v^2$ $\quad v^2 = y$ $\quad \circ\ v = \sqrt{y}$

i) $u = 0$

iv) $u = 1$ $\quad 0 \leq u \leq 1$

ii) $v = 1$ $\quad 0 \leq v \leq 1$

iii) $v = 0$



$$\iint \frac{3uv - 4v^2}{u - 4} J(u,v)\, dA$$

$$\iint \frac{3uv - 4v^2}{u - 4} \begin{vmatrix} \frac{\partial x}{\partial u} & \frac{\partial x}{\partial v} \\ \frac{\partial y}{\partial u} & \frac{\partial y}{\partial v} \end{vmatrix} dA$$

$$\iint \frac{3uv - 4v^2}{u - 4} \begin{vmatrix} \frac{1}{2}u^{-1/2} & 0 \\ 0 & 2v \end{vmatrix} dA$$

$$\int\int \frac{3uv - 4v^2}{v - 4} \left| \frac{v}{\sqrt{u}} \right| dA$$

$$\int\int \frac{3uv - 4v^2}{u - 4} \frac{(v)}{\sqrt{u}} dA$$

$$\int\int \frac{3uv^2 - 4v^3}{u^{3/2} - 4\sqrt{u}} dA$$

$$\int_0^1 \int_0^1 \frac{v^2(3u - 4v)}{u^{3/2} - 4\sqrt{u}} \, dv \, du$$

$$\int_0^1 \int_0^1 \frac{3uv^2}{u^{3/2} - 4\sqrt{u}} - \frac{4v^3}{u^{3/2} - 4\sqrt{u}} \, dv \, du$$

$$\int_0^1 \frac{u}{u^{3/2} - 4\sqrt{u}} v^3 - \frac{v^4}{u^{3/2} - 4\sqrt{u}} \Big|_0^1 \, du$$

$$\int_0^1 \frac{u - 1}{u^{3/2} - 4\sqrt{u}} \, du$$

$$\int_0^1 \frac{u}{u^{3/2} - 4\sqrt{u}} - \frac{1}{u^{3/2} - 4\sqrt{u}} \, du$$

$$\int_0^1 \frac{u}{u^{3/2} - 4\sqrt{u}} \, du - (\ln u^{3/2} - 4\sqrt{u}) \Big|_0^1$$

$$\int_0^1 \frac{u}{u^{3/2} - 4u} - ((-4)?)$$

$$\int_0^1 \frac{u}{u^{3/2} - 4u} + 4$$