12 Sasme Jai-7 In (X+4) dxdy
youth y=rsmo = 0 -> asmB X = rcose = year - Job-y acosp - Screen as to cred with Edius a OSINB J Thus, we see that this is a tan-shape (10-)a,0-B Sola(In1) rdrda $= \int_0^{\beta} \int_0^{\alpha} 2(\ln r) r dr dr$ $= \int_0^{\beta} (r^2 \ln r - r^2) a dr$ preudos, conthus y 0 -> X tank U : D ->X I. tout. - (1-t) dv-/2- vt = x2-xt+= $=) \int_0^1 \int_0^x g(x-1)f(y)f(x)dydx(1) => Swifth vor/nhle symbol)$ So SX g(y-x) trystax Q $= \int_0^1 \int_y^1 g(x-y) f(y) f(x) dx dy$ Sum these two integran (1) + (2) 50 (5/g(y-x)t(y)t(x) dy+50 g(x-y)t(y)t(y)) dx 19 consider bx2>a2y2 thus, the integral is split into 2 integrals Int-grate into a 5th de trutth known a getX-y) So Pax Box by dx + So Shax eath dydx) = \frac{1}{2} \line \l but not that uset-1 as absolute value still need split change order of the gration $= \int_0^b \int_0^{a/by} C dx dy$ 5 = \$ 6/6 e dy + \$ back dx 10 lac $= \left[\frac{e^{2}}{2ba}\right]_{0}^{2} + \left[\frac{e^{2}}{2ab}\right]_{0}^{2}$ $=2(e^{ab}-1)$ 20 String of (x,y) andy some though

= Sy' of (x,y) - of (x,y) dy some but difference some = F(X, y,)-F(X, yo)+F(Xo, y,)-F(Xo, y,) 21 (a) dov/oy Cb) for ex dx sub- 1 1 = 1 22 Duff Stu, + Stus 23 (a) V (cb) \(\begin{array}{c} \begin $= \int_{0}^{2\pi} \int_{1}^{6\pi} \frac{1}{3} \left(\frac{1}{2^{3}} + \frac{1}{(1+2^{2})^{3}} \right) = \lambda_{2} \lambda_{3} \lambda_{3}$ 28 How and we get 3D sphere) integrate only So smalarly 5 311/11-12 - 5-1 3-10 C(-W) JI-WdW $= \frac{4\pi R}{3\pi R} \left(\frac{2}{2} + \frac{\cos 6m}{2} \right) + \frac{\cos^3 3m}{4} \right) \frac{\pi}{4}$

 $= \int_{a}^{b} \int_{\rho}^{\infty} e^{-Xy} dxdy = \int_{a}^{b} \frac{1}{y} dy = ||A||^{b}$