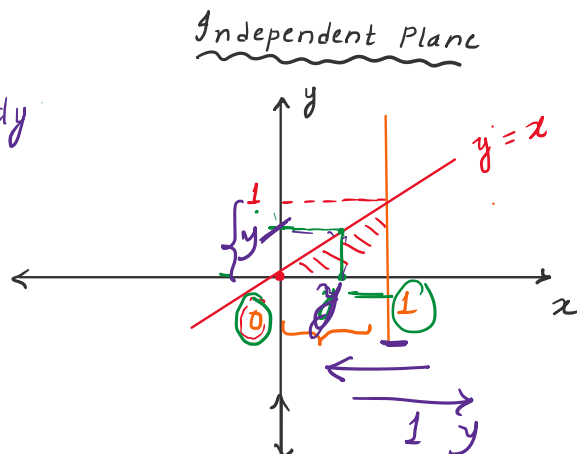


Eg: $\int_0^1 \int_0^x f(x,y) dy dx = \int_0^1 \int_y^1 f(x,y) dz dy$

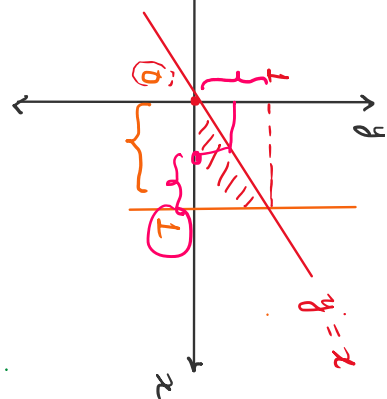
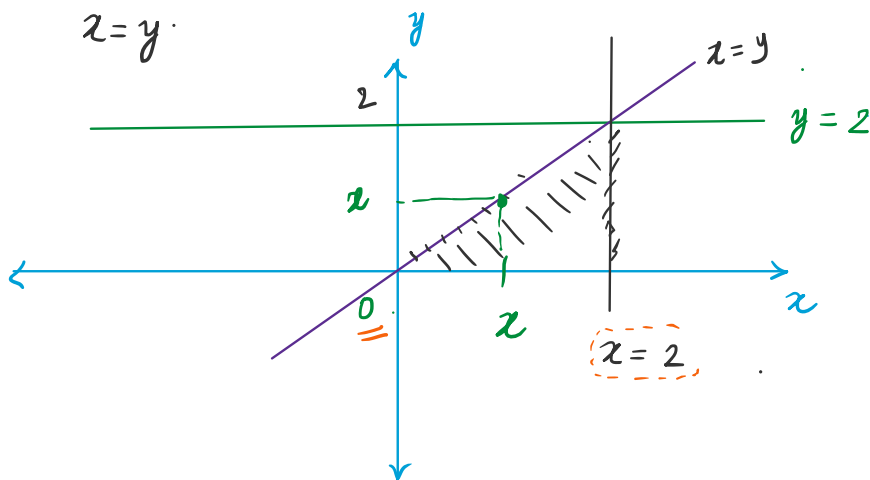
$y \in [0, x]$
 $x \in [0, 1]$

$x \in [y, 1]$
 $y \in [0, 1]$



Q. $\int_0^2 \int_y^2 e^{x^2} dx dy$

$x \in [y, 2], y \in [0, 2]$



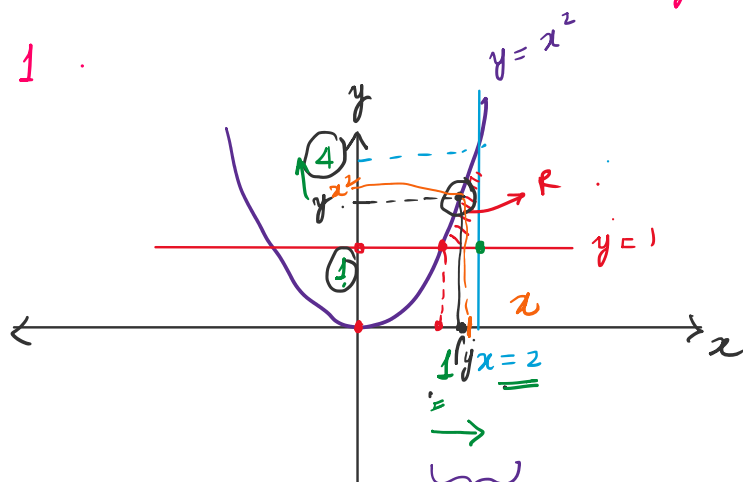
$\iint e^{x^2} dy dx$

$x \in [0, 2], y \in [x, 2]$

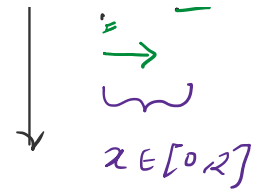
Q. Find $\iint_R f(x,y) dz dy$ where R is the region bounded by the curves $y = x^2, x = 2, y = 1$.

$\int_1^4 \int_{\sqrt{y}}^2 f(x,y) dx dy$

$y \in [1, 4], x \in [\sqrt{y}, 2]$



$$y \in [1, 4] \cdot x \in [\sqrt{y}, 2]$$



$$x_{\max} = 2, x_{\min} = 1$$

$$y_{\max} = 4, y_{\min} = 1$$

$$x \in [1, 2]$$

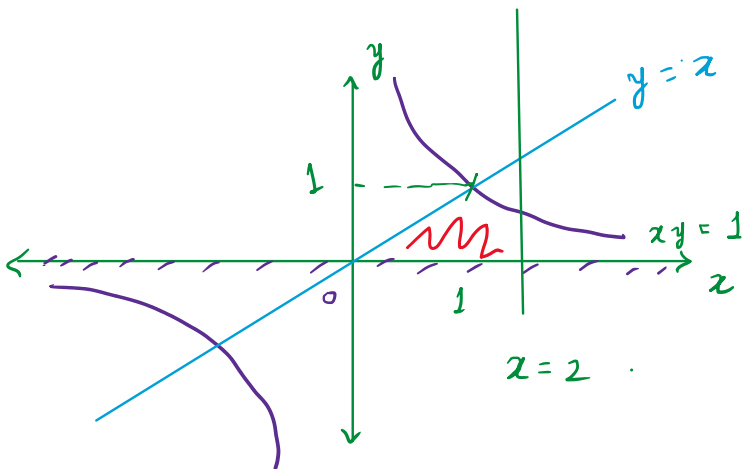
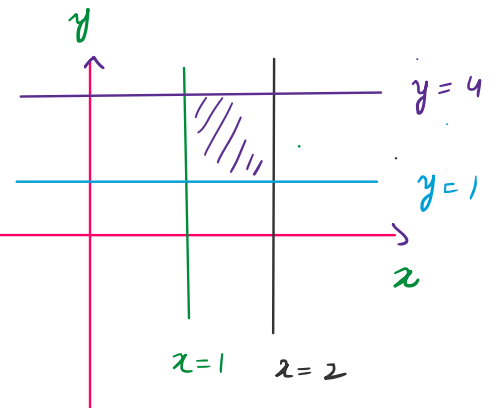
$$y \in [1, 4]$$

$$\int_0^{x^2} \int_{x^2}^4 f(x, y) dy dx$$

HW

Q. $\iint_R f(x, y) dx dy$ where R

is the region bounded by the curves: $xy = 1$, $y = 0$, $y = x$, $x = 2$.



$$\iint dx dy$$