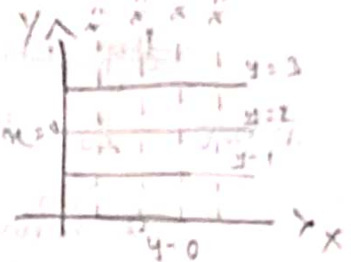
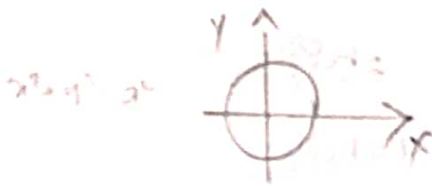
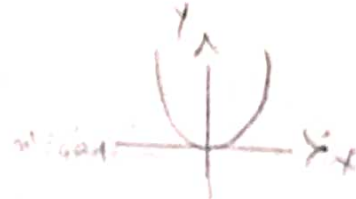
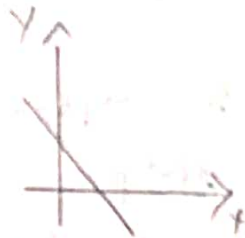


Double Integration: Under given region  
standard diagrams



change of order of integration

1. Change of order of integration for  $\int_0^1 \int_0^x dx dy$

Sol

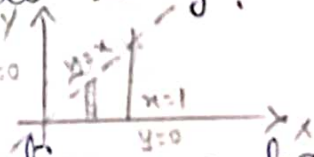
Given integral is not in the correct form

$$\int_0^1 \int_0^x dy dx$$

Given limits  $x$  limit  $x=0$  to  $x=1$   
 $y$  limit  $y=0$  to  $y=x$

Inner limit is with respect to  $y$ .

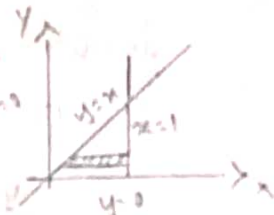
$\therefore$  It is vertical strip



By changing order of integration we have

to draw a horizontal strip

$x$  limit  $x=y$  to  $x=1$   
 $y$  limit  $y=0$  to  $y=1$



$$I = \int_0^1 \int_y^1 dx dy$$