

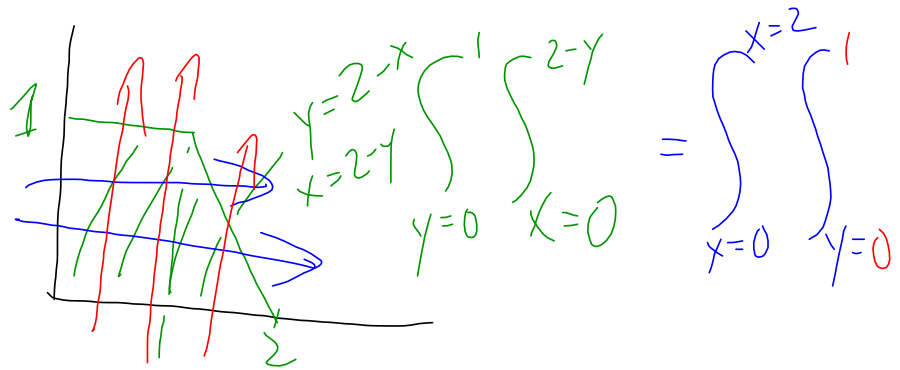
		x		
		0	1	2
y	0		x	x
	1	x	x	x

$$\sum_{y=0}^1 \sum_{x=1-y}^2 f(x,y)$$

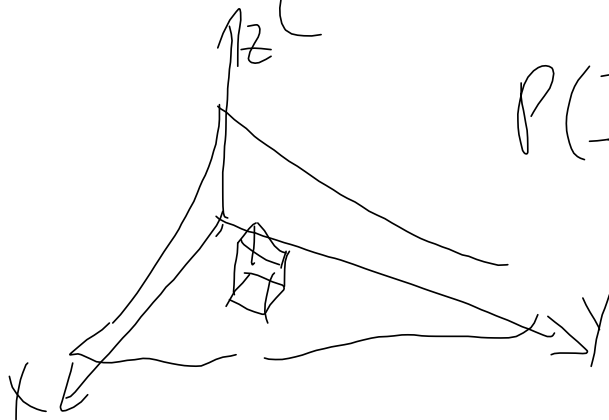
$$P(\bar{X} + \bar{Y} \geq 1)$$

$$\begin{aligned} x+y &= 1 \\ y &= 1-x \\ x &= 1-y \end{aligned}$$

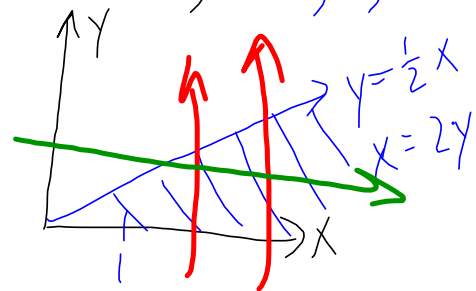
$$\sum_{x=0}^1 \sum_{y=1-x}^1 f(x,y) + \sum_{x=2}^2 \sum_{y=0}^1 f(x,y) = 1 - f(0,0)$$



$$z = f(x, y) = \begin{cases} 2e^{-2x-y} & \text{if } x \geq 0, y \geq 0 \\ 0 & \text{otherwise} \end{cases}$$



$$P(X \geq 2Y) = \iiint$$



$$\int_{x=0}^{\infty} \int_{y=0}^{\frac{1}{2}x} 2e^{-2x-y} dy dx = \int_{y=0}^{\infty} \int_{x=2y}^{\infty} 2e^{-2x-y} dx dy$$

Understanding Covariance

		X	
$f(x,y)$		0	1
Y	0		
	1		

		X	
$f(x,y)$		0	1
Z	0		
	1		

		x	
		0	1
w	f(x,y)	0	1
	0		
1			