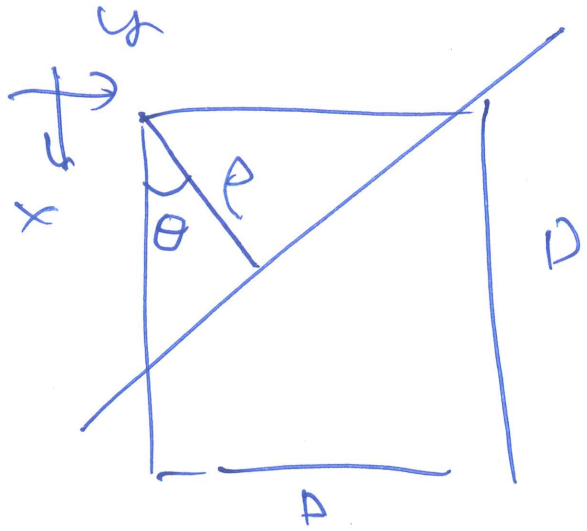
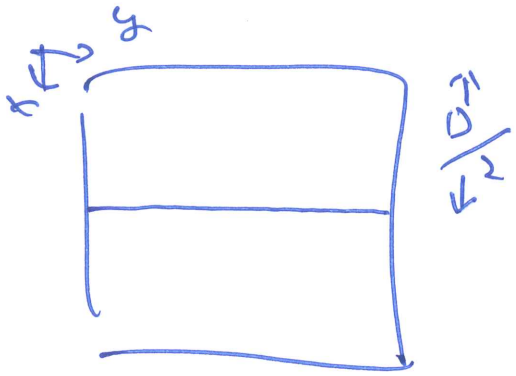
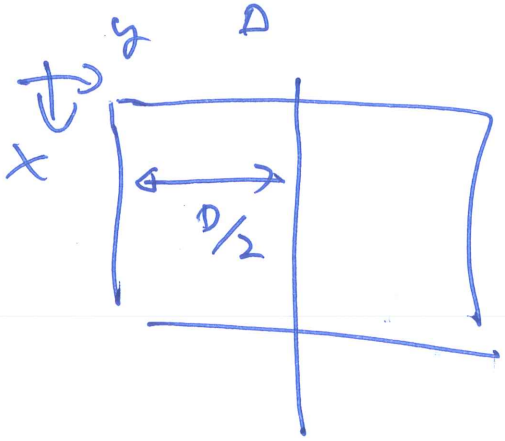
$x\cos\theta + y\sin\theta = \rho$



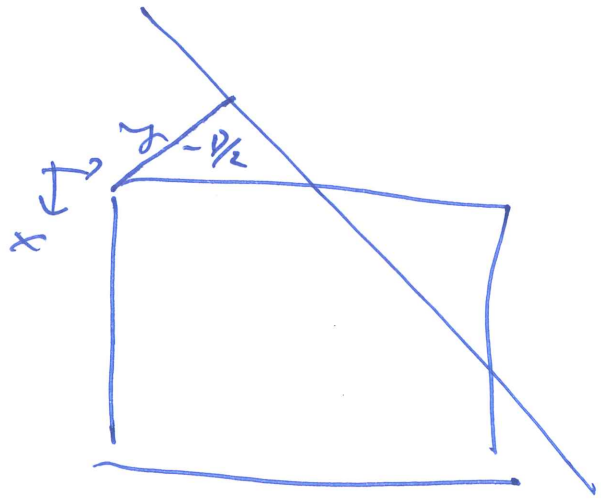
$\theta = 0°$, $\rho = D/2$

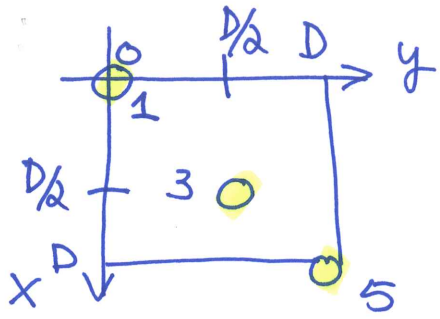


$\theta = 90°$, $\rho = D/2$



$\theta = -45°$, $\rho = -D/2$





For point 1, the coordinates are $(0, 0)$

For point 3, " " " $(\frac{D}{2}, \frac{D}{2})$

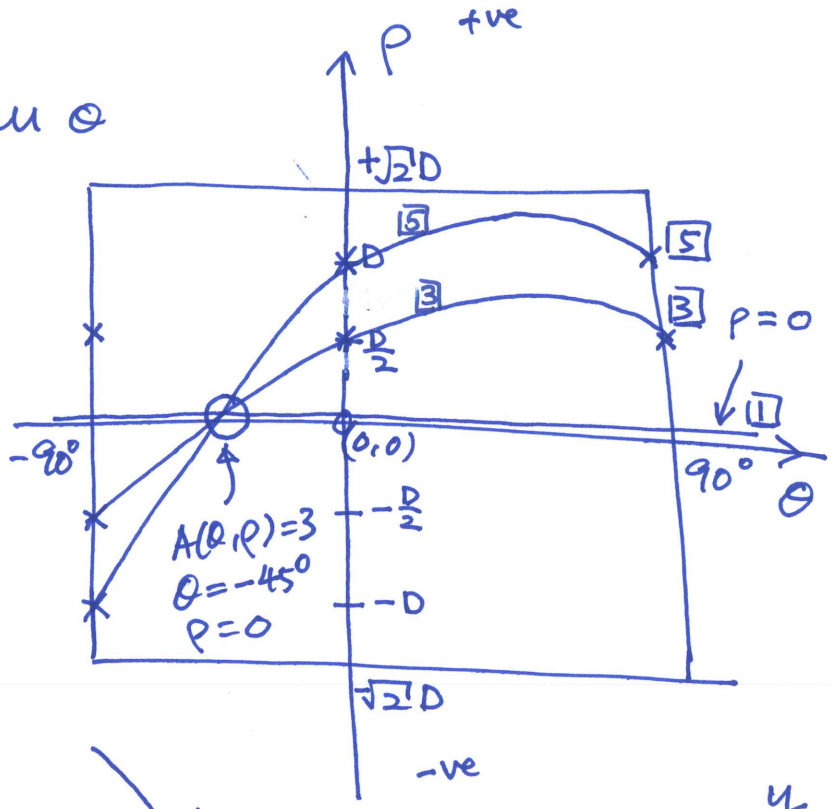
(D, D)

$$\rho = \cos\theta\, x + \sin\theta\, y$$

For point 1, $\rho = 0$ for all θ

(x, y)

$(0, 0)$



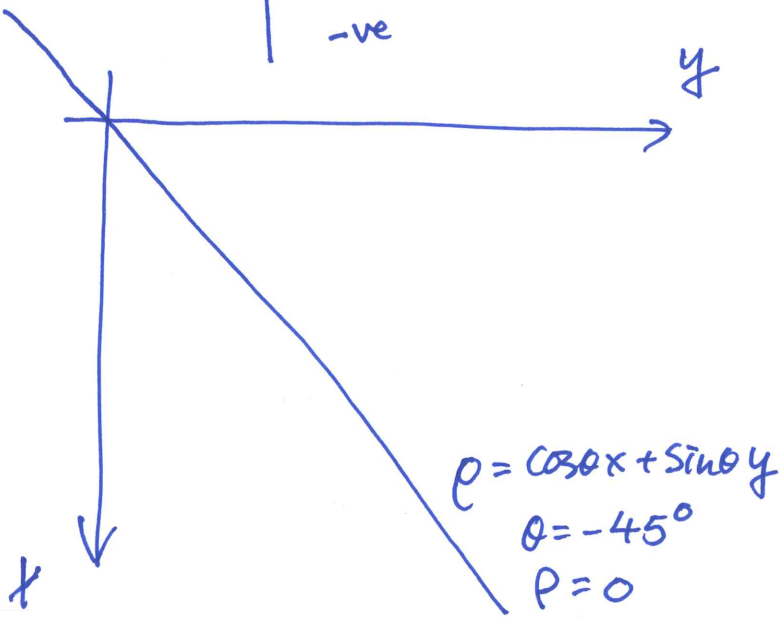
For point 3, $(\frac{D}{2}, \frac{D}{2})$

$$\rho = \frac{D}{2}(\cos\theta + \sin\theta)$$

$\theta = -90^\circ \Rightarrow \rho = \frac{-D}{2}$

$\theta = 0^\circ \Rightarrow \rho = \frac{D}{2}$

$\theta = 90^\circ \Rightarrow \rho = \frac{D}{2}$



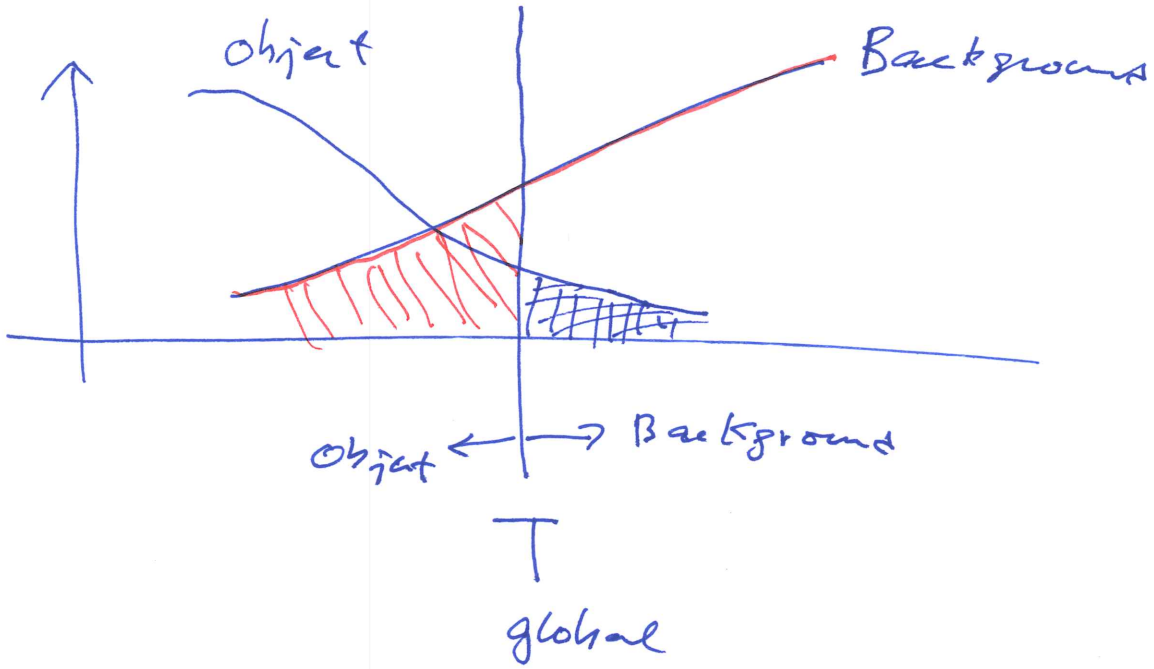
For point 5, (D, D)

$$\rho = D(\cos\theta + \sin\theta)$$

$\theta = -90^\circ \Rightarrow \rho = -D$

$\theta = 0^\circ \Rightarrow \rho = D$

$\theta = 90^\circ \Rightarrow \rho = -D$


object
Background
object ← → Background
global