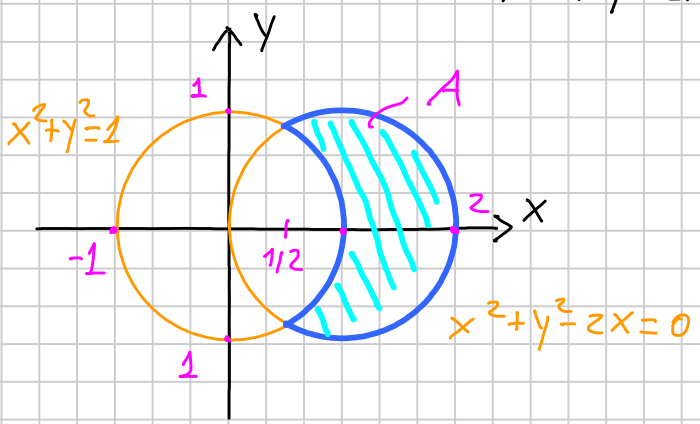
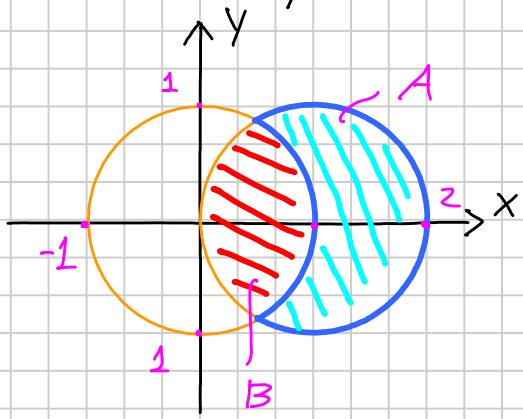
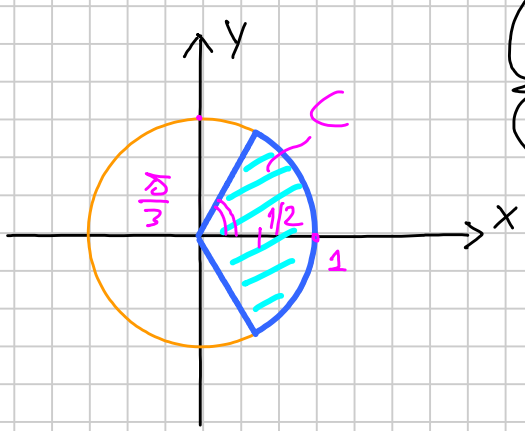
BY GIMUSI 10/06/15

$A: 1 \le x^2+y^2 \le 2x$ $\begin{cases} x^2+y^2 \ge 1 \\ x^2+y^2-2x \le 0 \end{cases}$ $\begin{cases} (x-x_0)^2+(y-y_0)^2 = R^2 \\ x^2+y^2-2x_0x-2y_0y = R^2-x_0^2-y_0^2 \end{cases}$

$x^2+y^2-2x=0 \rightsquigarrow x_0=1 \quad y_0=0 \quad R=1$







$\begin{cases} AREA(A) = \pi - AREA(B) \\ AREA(B) = 2\left(AREA(C) - \cancel{2}\cdot\frac{1}{\cancel{2}}\,\frac{1}{2}\cdot\frac{\sqrt{3}}{2}\right) = \end{cases}$

$= 2\left(\frac{\pi}{3} - \frac{\sqrt{3}}{4}\right) = \frac{2}{3}\pi - \frac{\sqrt{3}}{2}$

$\rightsquigarrow AREA(A) = \pi - \frac{2}{3}\pi + \frac{\sqrt{3}}{2} = \frac{\pi}{3} + \frac{\sqrt{3}}{2}$