MAT0105 – Geometria Analítica
1/2020

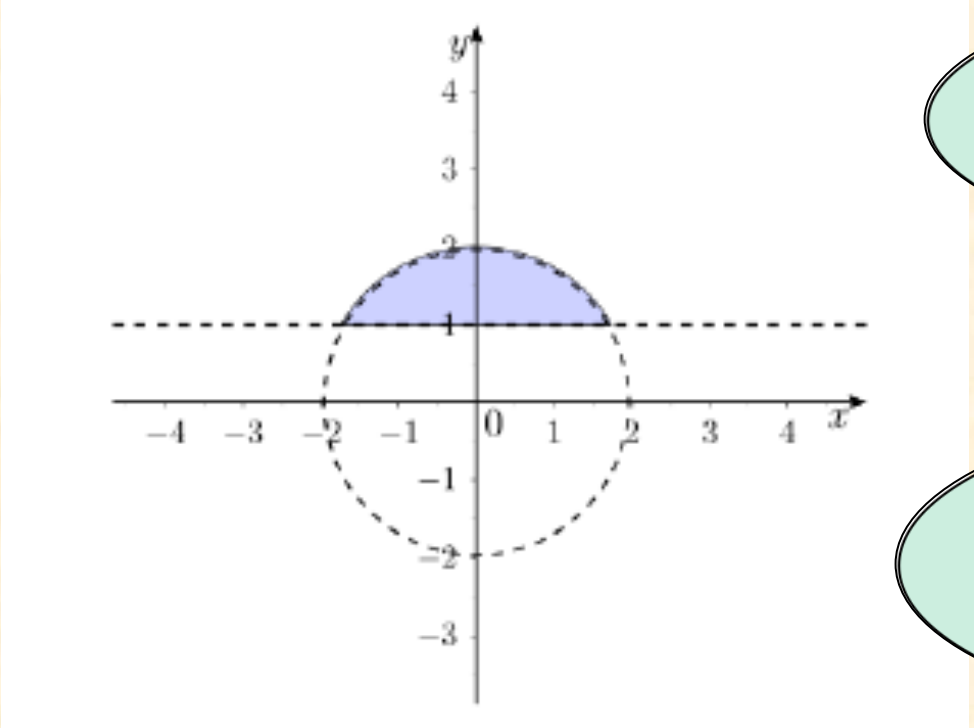
“Tira Dúvida” 1

Profa. Ana Paula Jahn

anapjahn@gmail.com

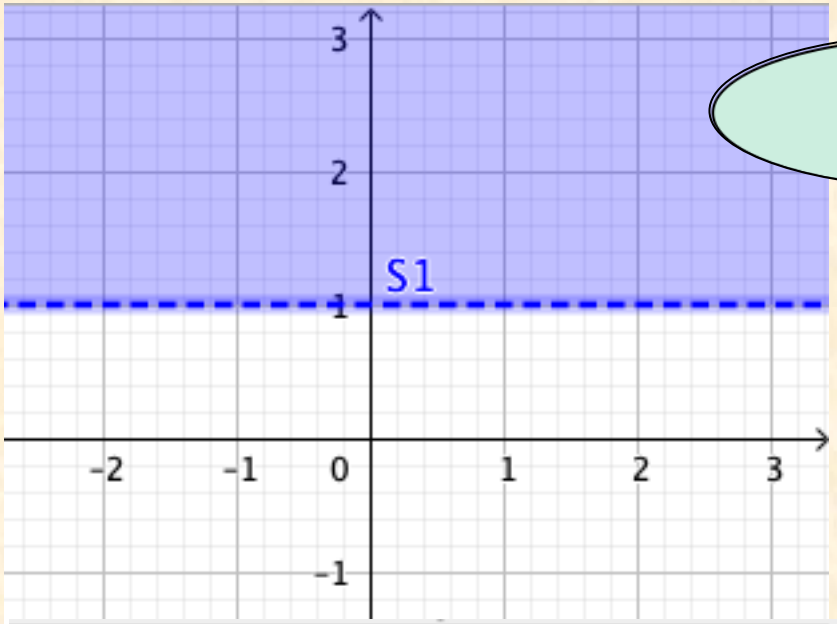
Questão 1a da Lista Complementar 2

1) Considere fixado um sistema de coordenadas cartesianas OXY no plano. determine a(s) condição(ões) que define(m) cada uma das seguintes regiões do plano:

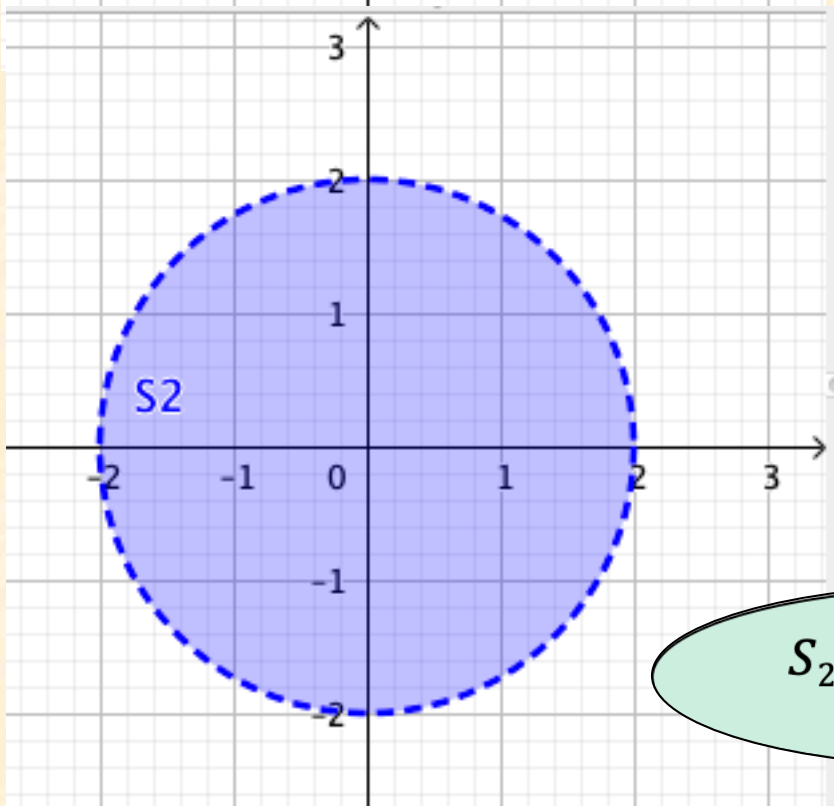


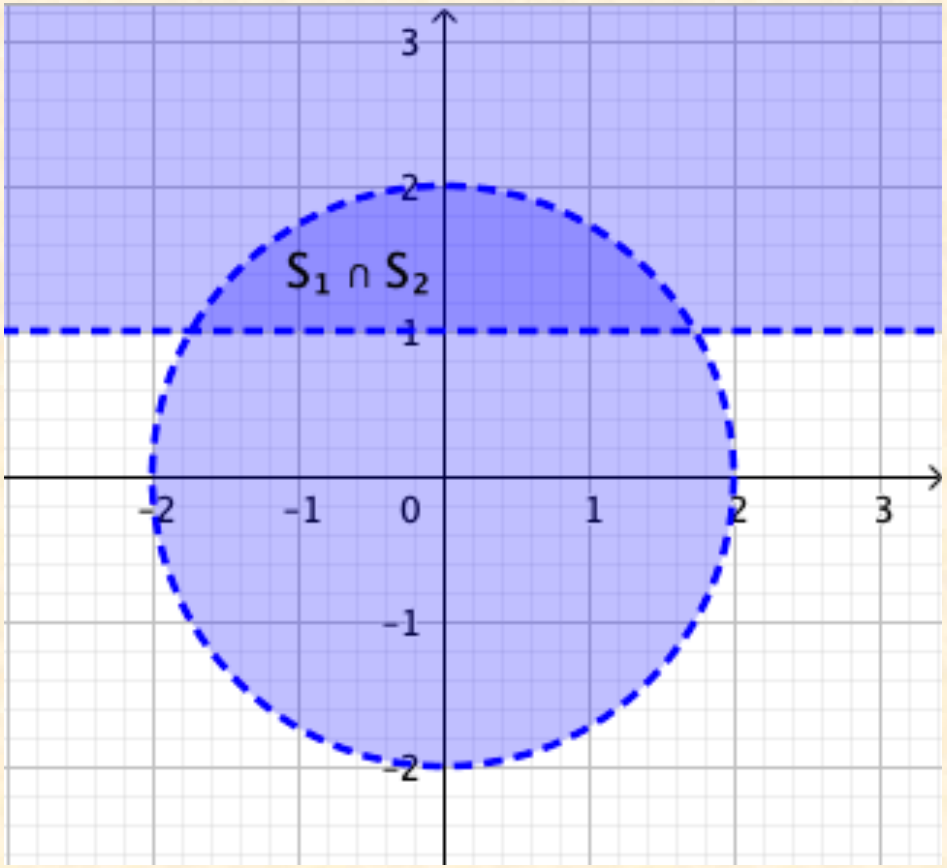
Uma reta horizontal
Pelo ponto **A=(0, 1)**
$y = 1$

✓ Uma circunferência
Com centro em ***O*=(0, 0) e**
raio 2 u.c.
$x^2 + y^2 = 4$

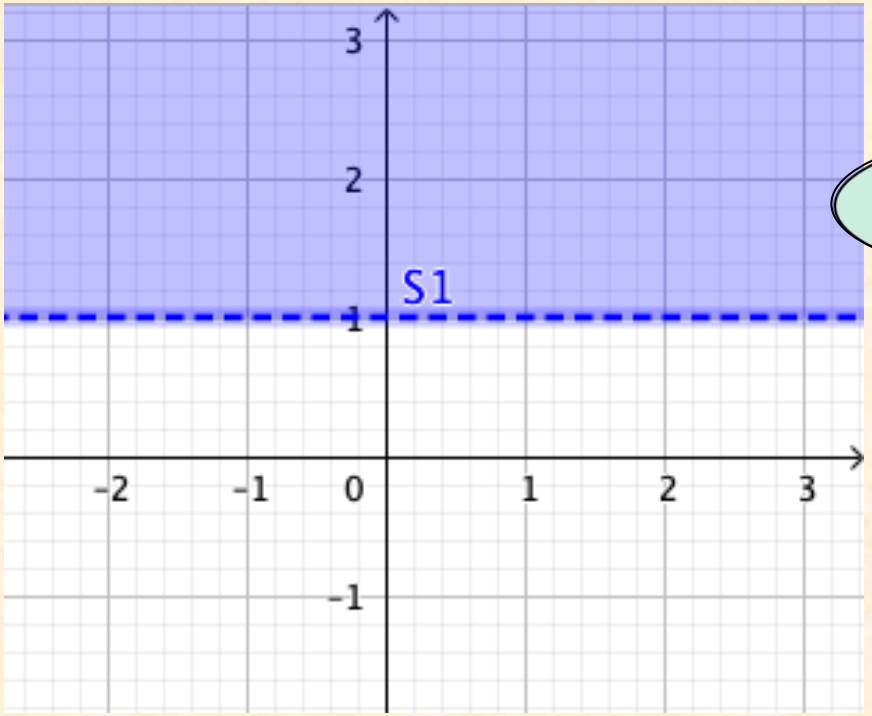


$S_1: y > 1$





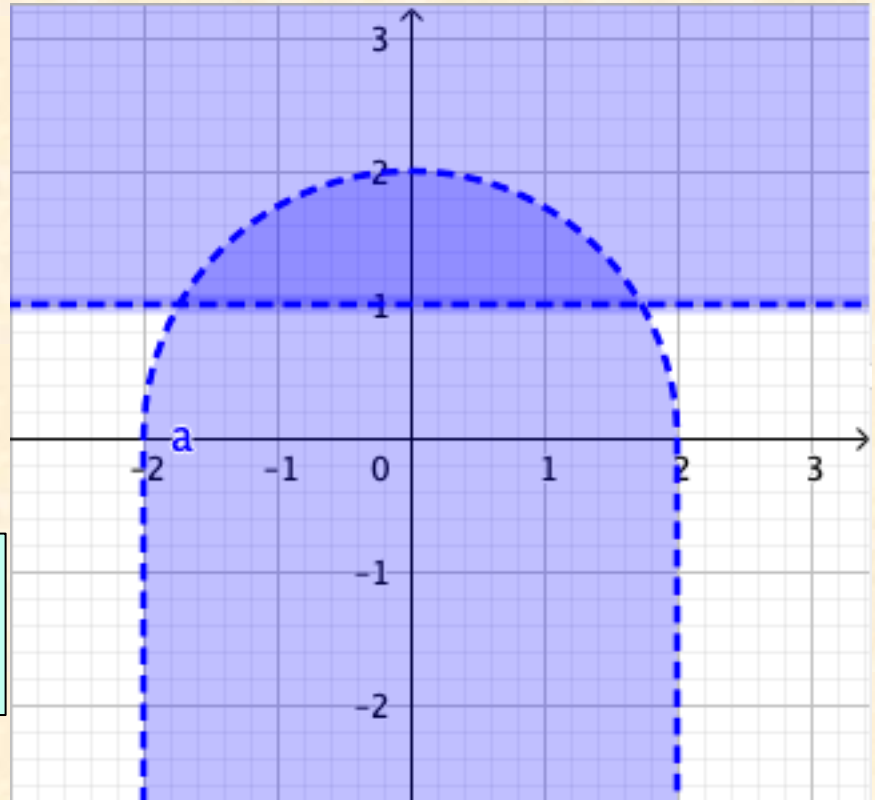
$S_2: x^2 + y^2 < 4$

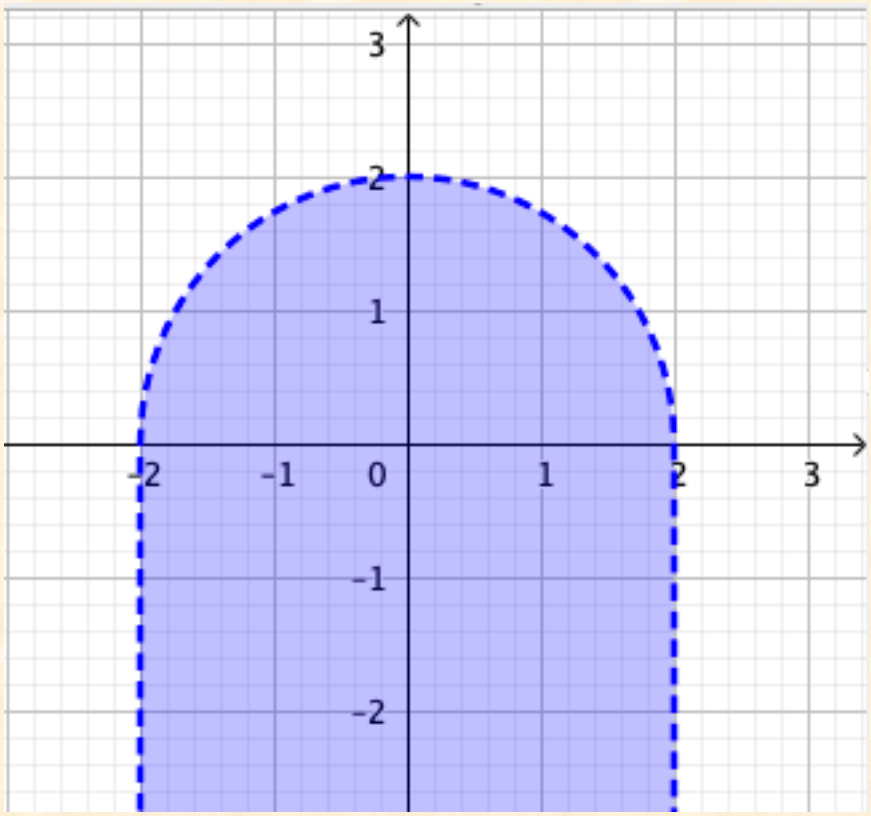


$S_1: y > 1$

$y < \sqrt{4 - x^2}$

Atenção! Não é equivalente a $x^2 + y^2 < 4$



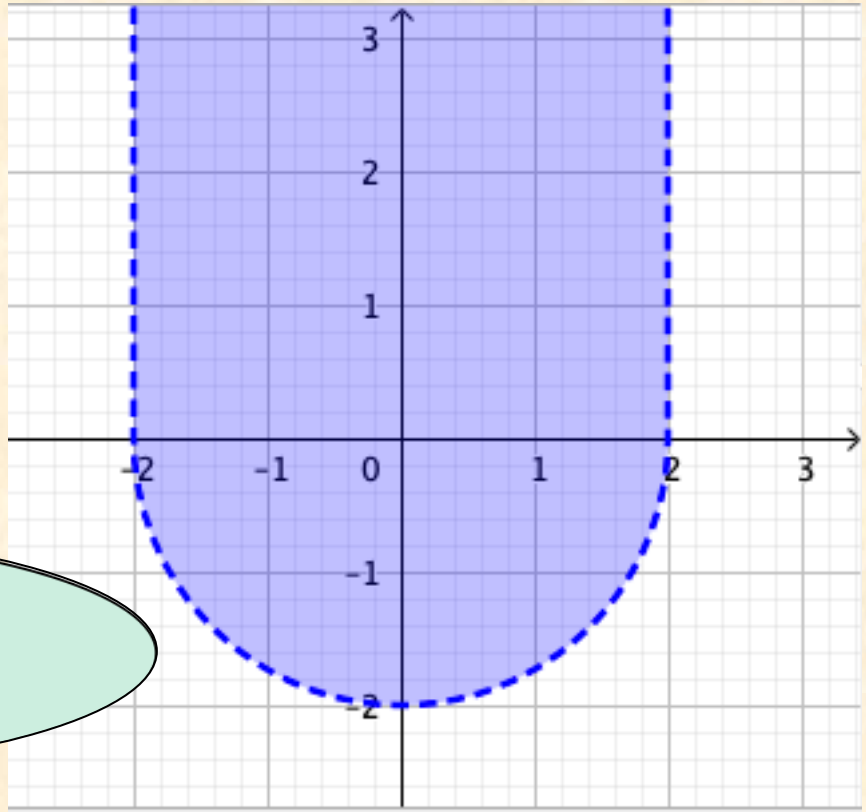


$$x^2 + y^2 < 4$$
$$y^2 < 4 - x^2$$
$$|y| < \sqrt{4 - x^2}$$

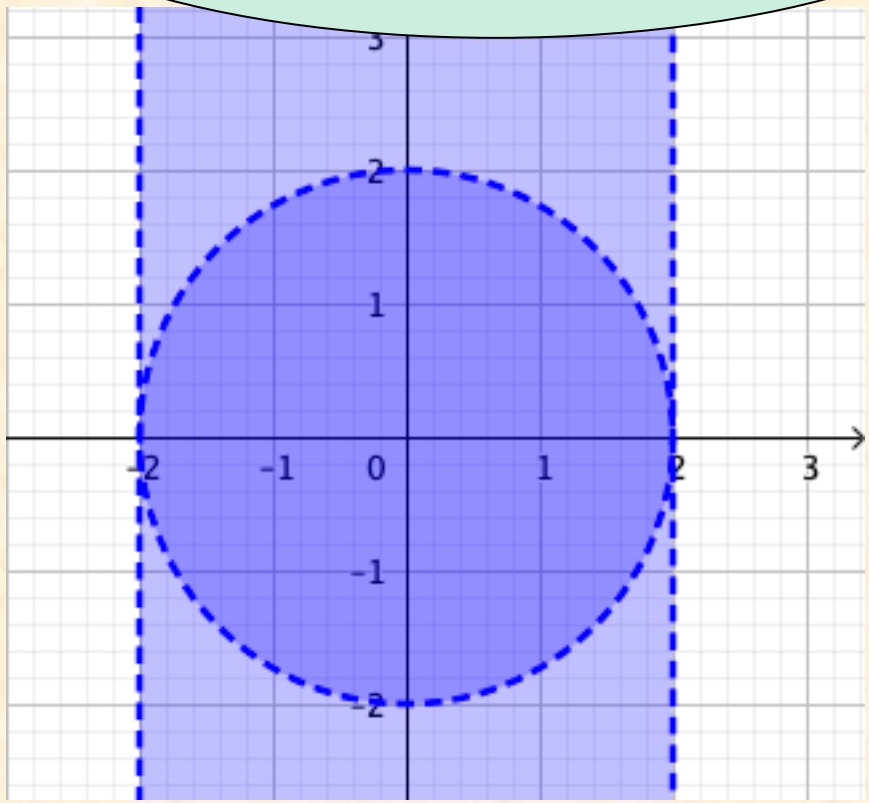
$$\sqrt{y^2} = |y|$$

$$|y| < \sqrt{4 - x^2}$$
$$Se\ y \geq 0,\ \ y < \sqrt{4 - x^2}$$

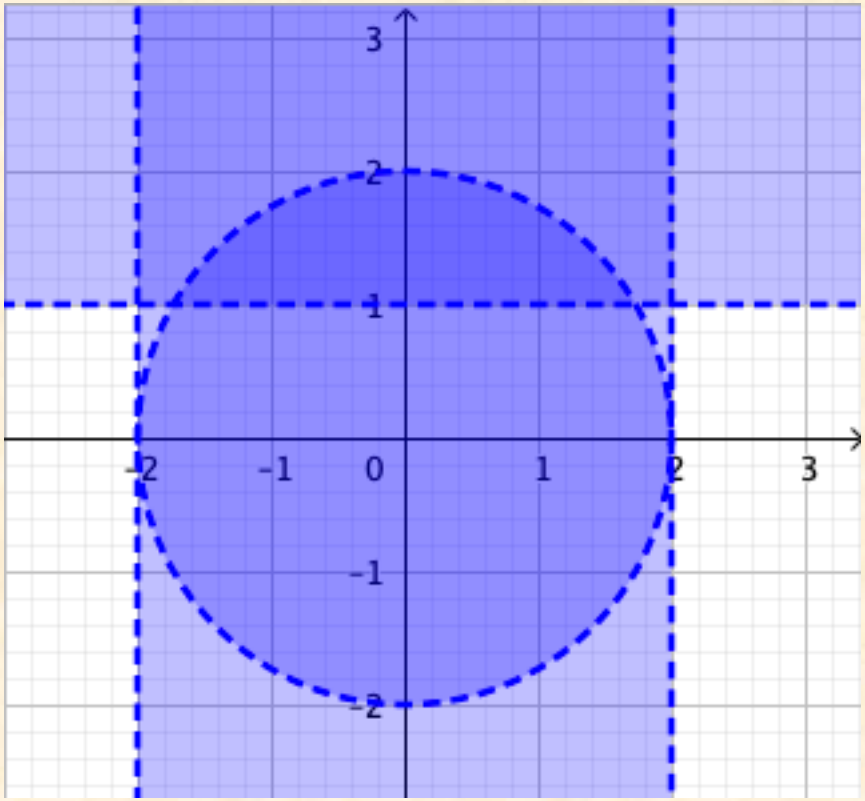
$$|y| < \sqrt{4 - x^2}$$
$$se\ y < 0, \qquad y > -\sqrt{4 - x^2}$$



$$x^2 + y^2 < 4$$
$$|y| < \sqrt{4 - x^2}$$
$$Se\ y \geq 0, \qquad y < \sqrt{4 - x^2}$$
$$Se\ y < 0, \qquad y > \sqrt{4 - x^2}$$



$$y > 1$$
$$|y| < \sqrt{4 - x^2}$$



Não esquecer:

$$a \in \mathbb{R}, \sqrt{a^2} = |a|$$