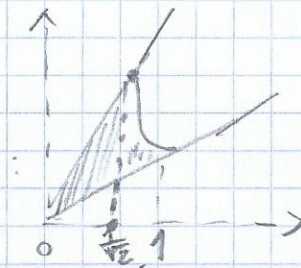
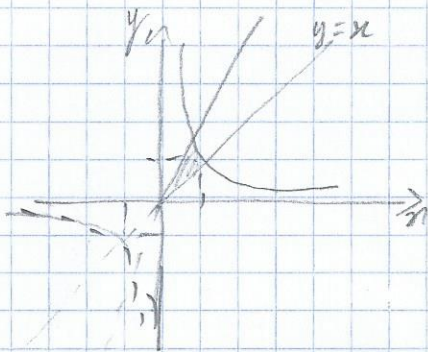


Aula dia 3

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$\int_R x^2 dA$ onde R é regão do 1º Quadrante comp. entre

$xy=1, y=x, y=2x$
 $y = \frac{1}{x}$
 hiperbólico



olhar de baixo para cima ou função x^2

$y = \frac{1}{x}$
 $y = 2x$

$2x = \frac{1}{x} \Rightarrow 2x^2 = 1$

$x = \frac{1}{\sqrt{2}}$

(*)

$x = \pm \frac{1}{\sqrt{2}}$
 $y = \pm \frac{1}{x}$

$\int_R x^2 dA = \int_0^{\frac{1}{\sqrt{2}}} \int_x^{2x} x^2 dy dx + \int_{\frac{1}{\sqrt{2}}}^1 \int_x^{\frac{1}{x}} x^2 dy dx =$

$= \int_0^{\frac{1}{\sqrt{2}}} x^2 [y]_x^{2x} dx + \int_{\frac{1}{\sqrt{2}}}^1 x^2 [y]_x^{\frac{1}{x}} dx = \int_0^{\frac{1}{\sqrt{2}}} x^2 \cdot x dx +$

$+ \int_{\frac{1}{\sqrt{2}}}^1 x^2 \left[\frac{1}{x} - x \right] dx$

Áreas de domínios planos

problemas

$\text{Área de } R = \iint_R 1 dA$

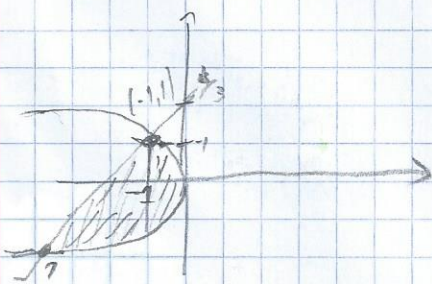
26) $y^2 = -x$ e $3y - x = 4$

30)

$y = \frac{4+x}{3}$

$x=0$
 $y = \frac{4}{3}$

(*)



$x = -y^2$
 $y = \frac{4+x}{3}$

$x = -\left(\frac{4+x}{3}\right)^2$

$x = -\frac{16+8x+x^2}{9}$

$-9x = 16+8x+x^2 \Rightarrow x^2 - 17x + 16 = 0$