

EJERCICIO 1:

$$\begin{aligned} \text{a) } 8\sqrt{50} + 3\sqrt{8} - 3\sqrt{2} + 2\sqrt{18} &= 8\sqrt{2 \cdot 5^2} + 3\sqrt{2^3} - 3\sqrt{2} + 2\sqrt{2 \cdot 3^2} = \\ &= 8 \cdot 5\sqrt{2} + 3 \cdot 2\sqrt{2} - 3\sqrt{2} + 2 \cdot 3\sqrt{2} = (40 + 6 - 3 + 6)\sqrt{2} = 49\sqrt{2} \end{aligned}$$

EJERCICIO 2:

$$\begin{aligned} \text{a) } \log\left(\frac{0,01}{a}\right)^2 &= 2 \cdot \log\left(\frac{0,01}{a}\right) = 2(\log 0,01 - \log a) = \\ &= 2(\log 10^{-2} - \log a) = 2(-2 \cdot \log 10 - \log a) = 2(-2 \cdot 1 - 3) = 2 \cdot (-5) = -10 \end{aligned}$$

OTRA FORMA: Si: $\log a = 3 \Rightarrow a = 10^3$ luego:

$$\log\left(\frac{0,01}{a}\right)^2 = \log\left(\frac{0,01}{10^3}\right)^2 = \log\left(\frac{10^{-2}}{10^3}\right)^2 = \log(10^{-5})^2 = \log 10^{-10} = -10$$

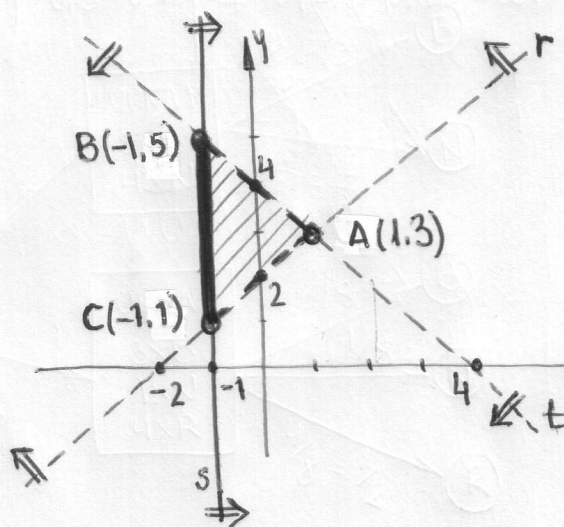
$$\begin{aligned} \text{b) } \log(10 \sqrt[3]{a}) &= \log(10 \cdot a^{1/3}) = \log 10 + \log a^{1/3} = \log 10 + \frac{1}{3} \cdot \log a = \\ &= 1 + \frac{1}{3} \cdot 3 = 2 \end{aligned}$$

OTRA FORMA: $a = 10^3$ luego: $\log(10 \cdot \sqrt[3]{10^3}) = \log(10 \cdot 10) = \log 10^2 = 2$

EJERCICIO 3:

Rectas:

$$\left. \begin{aligned} r &= x - y = -2 \\ s &= x = -1 \\ t &= x + y = 4 \end{aligned} \right\}$$



NOTA: Para elegir el semiplano solución en cada una de las rectas, evalúo en $O(0,0)$

ejemplo: $x - y < -2$
 $0 - 0 = 0 < -2$
(elijo el semiplano que NO contiene a $O(0,0)$)

VÉRTICES:

$A = r \cap t:$

$$\left. \begin{aligned} x - y &= -2 \\ x + y &= 4 \end{aligned} \right\}$$

$$2x = 2 \Rightarrow x = 1; y = 3$$

$B = s \cap t:$

$$\left. \begin{aligned} x &= -1 \\ x + y &= 4 \end{aligned} \right\} y = 5$$

$C = r \cap s:$

$$\left. \begin{aligned} x &= -1 \\ x - y &= -2 \end{aligned} \right\} y = 1$$