

## EXERCICIOS DE REPASO DE MATEMÁTICAS 4º ESO. COLEXIO ABRENTE.

1. Resolve as inecuacións e representa graficamente a solución:

$$2x + 7 < 9 - 4x$$

$$x^2 + 3x - 4 \leq 0$$

$$\frac{x-3}{2} - \frac{2+x}{3} > 3$$

$$2x^2 - 7x + 3 \geq 0$$

$$\frac{x-4}{x+2} \geq 0$$

$$\frac{2x-5}{x+2} \leq 0$$

$$\left. \begin{array}{l} x+3 > 11 \\ 5-x \leq 12 \end{array} \right\}$$

$$\left. \begin{array}{l} 4(x-2) < 7 \\ 7(3-x) \geq 5 \end{array} \right\}$$

2. Calcula os seguintes logaritmos:

$$\log_6 36 =$$

$$\log 100 =$$

$$\log_4 64 =$$

$$\log_{36} 6 =$$

$$\log_6 216 =$$

$$\log_5 125 =$$

$$\log_2 32 =$$

$$\log_3 27 =$$

$$\log_4 16 =$$

$$\log_{32} 2 =$$

$$\log_3 81 =$$

$$\log_5 625 =$$

3. Utilizando as propiedades dos logaritmos calcula as seguintes expresións:

$$\log_2 (64 \cdot 128) =$$

$$\log_3 \left( \frac{729}{81} \right) =$$

$$\log_2 64^3 =$$

$$\log_4 256^7 =$$

$$\log_5 (625:125) =$$

$$\log_7 (49 \cdot 2401) =$$

$$\log_2 \sqrt[3]{128} =$$

4. Calcula o valor de x nos seguintes casos. ¡Recorda a definición de logaritmo!

$$\log_5 x = 2$$

$$\log x = 0$$

$$\log_x 16 = 2$$

$$\log_4 x = -2$$

$$\log_6 x = -3$$

$$\log_x 125 = 3$$

$$\log_x 9 = \frac{1}{2}$$

$$\log_9 x = 1$$

5. Resolve as seguintes ecuacións logarítmicas e exponenciais:

$$\log x + \log 2 = 1$$

$$2 \log x - \log 4 = \log 9$$

$$2^{2x} - 3 \cdot 2^{x+1} + 8 = 0$$

$$10^{\frac{3x-1}{2x+1}} = 100$$

$$\log(2x-3) + \log(5-x) = \log 5$$

$$8 \cdot 2^x + 4 \cdot 2^{2x} = 320$$

$$2^{x+5} = 8^{x-1}$$

$$\left. \begin{array}{l} \log x + 3 \log y = 5 \\ \log \frac{x^2}{y} = 3 \end{array} \right\}$$

$$5^{\frac{x-3}{4}} = 25$$

$$\left. \begin{array}{l} 3 \cdot 5^x + 2 \cdot 6^{y+1} = 807 \\ 15 \cdot 5^{x-1} - 6^y = 339 \end{array} \right\}$$

$$\left. \begin{array}{l} 3^{2x+y} = 27 \\ 3^{x-2y} = 3 \end{array} \right\}$$

$$\left. \begin{array}{l} 2 \log x - 2 \log y = -2 \\ \log x + \log y = 3 \end{array} \right\}$$