

Bienvenidos!

$$\underline{3b:} \quad \sqrt[7]{6^{-2}} = (6^{-2})^{1/7} = 6^{(-2) \cdot \frac{1}{7}} = 6^{-\frac{2}{7}}$$

$$\underline{3a} \quad \sqrt[3]{x^7} = (x^7)^{1/3} = x^{7 \cdot \frac{1}{3}} = x^{7/3}$$

$$\underline{3d} \quad \sqrt[20]{x^5} = (x^5)^{1/20} = x^{5 \cdot \frac{1}{20}} = x^{5/20} = \underline{\underline{x^{1/4}}} \quad \left(= \sqrt[4]{x} \right)$$

$$\sqrt[n]{a} = a^{1/n}$$

$$\sqrt{a} = a$$

~~$$\sqrt{2} = 2?$$~~

$$\sqrt{5} = 5^{1/2}$$

$$\sqrt[3]{5} = 5^{1/3}$$

$$\frac{a^m}{a^n} = a^{m-n}$$

$$a^{m+n} = a^m a^n$$

$$(a^m)^n = a^{mn}$$

$$(ab)^n = a^n b^n$$

$$\underline{10 \neq}: \quad 5 \log 2x = 2 \log 5x$$

$x > 0$

~~$$\log (2x)^5 = \log (5x)^2$$~~

$$(2x)^5 = (5x)^2$$

$$2^5 x^5 = 5^2 x^2$$

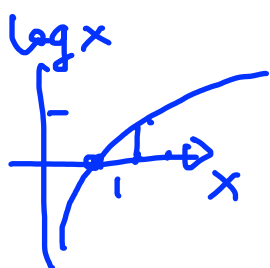
$$32 x^5 = 25 x^2$$

$$a \log x = \log x^a$$

$$\log xy = \log x + \log y$$

si se puede!

$$\div x^2$$



$$\frac{32x^5}{x^2} = \frac{25x^2}{x^2}$$

2

$$32x^3 = 25 \quad / \div 32$$

$$x^3 = \frac{25}{32}$$

$$x = \sqrt[3]{\frac{25}{32}}$$

$$5 \log 2 \sqrt[3]{\frac{25}{32}} = 2 \log 5 \sqrt[3]{\frac{25}{32}}$$

$$5 \left(\log 2 + \log \sqrt[3]{\frac{25}{32}} \right) = 2 \left(\log 5 + \log \sqrt[3]{\frac{25}{32}} \right)$$

$$\underline{5 \log 2 + 5 \log \left(\frac{25}{32} \right)^{1/3}} = 2 \log 5 + \underline{2 \log \left(\frac{25}{32} \right)^{1/3}}$$

$$\frac{1}{3} \log \frac{25}{32} = 2 \log 5 - 5 \log 2$$

$$\log \frac{25}{32} = \log 5^2 - \log 2^5$$

$$= \log \frac{25}{32} \quad \checkmark$$

$$\log A = \log B \Leftrightarrow A = B, \quad A, B > 0$$

log: $2^{x-4} = 4^{x-3}$ / $\cdot \log_2(\)$

$$\log_2(2^{x-4}) = \log_2(4^{x-3}) \quad \left| \begin{array}{l} a \log x = \log x^a \end{array} \right.$$

$$(x-4) \underbrace{\log_2 2}_{=1} = (x-3) \underbrace{\log_2 4}_{=2}$$

$$x-4 = 2(x-3)$$

$$x-4 = 2x-6$$

$$2 = -4+6 = x$$

$$\boxed{x=2}$$

check:

$$\begin{array}{ccccccc} & & 2^{2-4} & = & 4^{2-3} & & \checkmark \\ & \text{"} & & \text{"} & & & \\ & & 2^{-2} & = & 4^{-1} & & \\ \frac{1}{4} & \text{"} & & \text{"} & & = & \frac{1}{4} \end{array}$$

sin log: $2^{x-4} = 4^{x-3} = (2^2)^{x-3} = 2^{2(x-3)}$

$$\Rightarrow x - 4 = 2(x - 3)$$

\Rightarrow ...
