

Solve $2^x = 8$

$$2^x = 8$$

$$x = 3$$

Solve $2^x = 16$

$$2^x = 16$$

$$x = 4$$

Solve $2^x = 12$

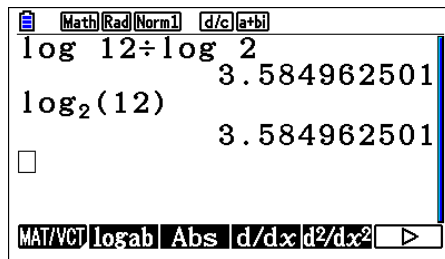
$$2^x = 12$$

$$\log 2^x = \log 12$$

$$x \log 2 = \log 12$$

$$x = \frac{\log 12}{\log 2}$$

$$x \approx 3.58$$



Solve $3^{x+1} = \frac{1}{27}$

$$3^{x+1} = \frac{1}{27}$$

$$3^{x+1} = \frac{1}{3^3}$$

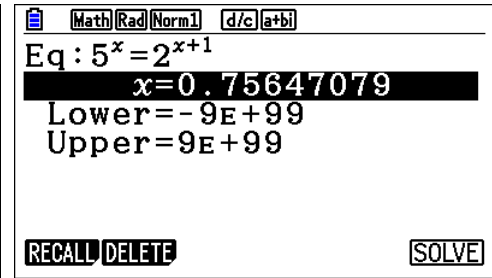
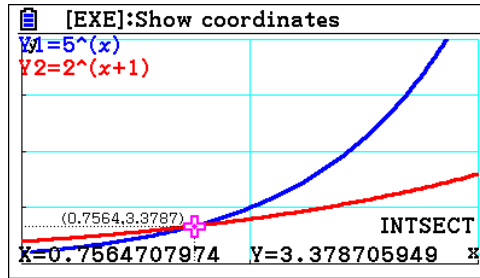
$$3^{x+1} = 3^{-3}$$

$$x + 1 = -3$$

$$x = -4$$

Solve $5^x = 2^{x+1}$ writing your answer in the form $\frac{\ln a}{\ln b}$ where a and b are rational numbers

Your GDC will solve this equation ...but not leave the answer in the form $\frac{\ln a}{\ln b}$



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

$$\ln(5^x) = \ln(2^{x+1})$$

$$x \ln 5 = (x + 1) \ln 2$$

$$x \ln 5 = x \ln 2 + \ln 2$$

$$x \ln 5 - x \ln 2 = \ln 2$$

$$x(\ln 5 - \ln 2) = \ln 2$$

$$x = \frac{\ln 2}{\ln 5 - \ln 2}$$

$$x = \frac{\ln 2}{\ln \frac{5}{2}}$$