

solve for x:

$$e^x = 10$$

$$10^x = 1000$$

$$5^{x+1} - 125 = 0$$

$$2 = a2^{x+1}$$

$$2 = a2^{x+1} + b$$

$$a^{x^2+7} + b = 0$$

$$y = ae^{\frac{x}{\tau}} + b$$

$$10e^{2x-1} - e^x = 0$$

$$5 = 2(4^{x+1} + 2)$$

$$2^{x+1} = 4(3^x)$$

$$\log(2x) = 10$$

$$3\log(2x - 1) = 1$$

$$\log(2x^2) - 4 = 0$$

$$\log(2x^2) - \log(x) = 0$$

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

$$2\log(x) - 2 = \log(20 - x)$$

$$10 = 2^x$$

$$e^x = 10$$

$$10^{x+1} = 100$$

$$10^{2x+1} = a$$

$$3^{2a+x} = b$$

$$\log(x) = 3$$

$$2\log(3x + 1) = 3$$

solve for x:

$$e^x = 10$$

$$\log e^x = \log 10$$

$$x \log e = \log 10$$

$$x = \frac{\log 10}{\log e} \approx 2.3$$

$$\ln e^x = \ln 10$$

$$x \ln e = \ln 10$$

$$x = \ln 10 \approx 2.3$$

$$10^x = 1000$$

$$\log 10^x = \log 1000$$

$$x = \frac{\log 1000}{\log 10} = \frac{\log 10^3}{\log 10^1} = \frac{3 \log 10}{1 \log 10} = 3$$

$$x = 3$$

$$5^{x+1} - 125 = 0$$

$$5^{x+1} = 125$$

$$(x+1) \log 5 = \log 125$$

$$x = \frac{\log 125}{\log 5} - 1 = 2$$

$$2 = a2^{x+1}$$

$$\log 2 = \log a + \log 2^{x+1}$$

$$\log 2 - \log a = (x+1) \log 2 \Rightarrow$$

$$x = \frac{\log 2 - \log a}{\log 2} - 1$$

$$2 = a2^{x+1} + b$$

$$2 - b = a2^{x+1}$$

$$\log(2-b) = \log a + (x+1) \log 2$$

$$x+1 = \frac{\log(2-b) - \log a}{\log 2} \Rightarrow$$

$$x = \frac{\log(2-b) - \log a}{\log 2} - 1$$

$$a^{x^2+7} + b = 0$$

$$a^{x^2+7} = -b$$

$$(x^2+7) \log a = \log(-b)$$

$$x^2 = \frac{\log(-b)}{\log(a)} - 7 \Rightarrow$$

$$x = \pm \sqrt{\frac{\log(-b)}{\log(a)} - 7}$$

$$y = ae^{\frac{x}{r}} + b$$

$$\log(y-b) = \log a + \left(\frac{x}{r}\right) \log e$$

$$\boxed{\frac{x}{r} = \frac{\log(y-b) - \log(a)}{\log e}}$$

$$10e^{2x-1} - e^x = 0$$

$$10e^{2x-1} = e^x$$

$$\log 10 + (2x-1) \log e = x \log e$$

$$2x \log e - x \log e = \log e - \log 10$$

$$\boxed{x = \frac{\log e - \log 10}{\log e} \approx -1.3}$$

$$5 = 2(4^{x+1} + 2)$$

$$5 - 4 = 2(4^{x+1})$$

$$\log 1 = \log 2 + (x+1) \log 4$$

$$\boxed{x = -\frac{\log 2}{\log 4} - 1 = -1.6}$$

$$2^{x+1} = 4(3^x)$$

$$(x+1) \log 2 = \log 4 + x \log 3$$

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

$$\boxed{x = \frac{\log 4 - \log 2}{\log 2 - \log 3} = -1.7}$$

$$\log(2x) = 10$$

$$\begin{aligned} \log(2x) &= 10 \\ 2x &= 10^{10} \end{aligned} \rightarrow \boxed{x = \frac{10^{10}}{2} = 5 \times 10^9}$$

$$3\log(2x-1) = 1$$

$$\begin{aligned} (\log(2x-1))^3 &= 10^1 \\ (2x-1)^3 &= 10 \end{aligned} \rightarrow \begin{aligned} 2x-1 &= 10^{\frac{1}{3}} \\ x &= \frac{10^{\frac{1}{3}} + 1}{2} = 1.58 \end{aligned}$$

$$\log(2x^2) - 4 = 0$$

$$\begin{aligned} \log(2x^2) &= 4 \\ 2x^2 &= 10^4 \end{aligned} \rightarrow \boxed{x = \pm \sqrt{\frac{10^4}{2}}} = \pm 70.7$$

$$\log(2x^2) - \log(x) = 0$$

$$\begin{aligned} \log(2x^2) &= \log(x) \\ 2x^2 &= x \end{aligned} \rightarrow \begin{aligned} 2x^2 - x &= 0 \\ 2x(x-1) &= 0, \quad \boxed{x = 0, +1} \end{aligned}$$

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

$$\begin{aligned} \log\left(\frac{2x^2}{2x}\right) &= 5 \\ \log x &= 5 \end{aligned} \rightarrow \begin{aligned} 10^{\log x} &= 10^5 \\ \boxed{x} &= 10^5 \end{aligned}$$

$$\log(x) - 2 = \log(20-x)$$

$$\log(x) - \log(20-x) = 2$$

$$\log\left(\frac{x}{20-x}\right) = 2$$

$$\frac{x}{20-x} = 10^2$$

$$x = (10^2)20 - 10^2x$$

$$\begin{aligned} x(1+10^2) &= 2000 \\ \boxed{x} &= \frac{2000}{101} = 19.8 \end{aligned}$$

$$10 = 2^x$$

$$\log 10 = x \log 2$$

$$x = \frac{\log 10}{\log 2} =$$

$$e^x = 10$$

$$x \log e = \log 10$$

$$x = \frac{\log 10}{\log e} =$$

$$10^{x+1} = 100$$

$$(x+1) \log 10 = \log 100$$

$$x = \frac{\log 100}{\log 10} - 1 =$$

$$10^{2x+1} = a$$

$$(2x+1) \log 10 = \log a$$

$$x = \frac{\log a - 1}{2}$$

$$3^{2a+x} = b$$

$$(2a+x) \log 3 = \log b$$

$$x = \frac{\log b}{\log 3} - 2a$$

$$\log(x) = 3$$

$$10^{\log(x)} = 10^3$$

$$x = 10^3 = 1000$$

$$2\log(3x+1) = 3$$

$$10^{\log(3x+1)} = 10^{\frac{3}{2}}$$

$$3x+1 = 10^{1.5}$$

$$x = \frac{10^{1.5} - 1}{3} \approx 10.2$$