

$$y = x^y \xrightarrow{x=1} y = 1 \int (1, 1) \quad y^{Ax+B} = 1 \Rightarrow y^{A+B} = 1 \Rightarrow A+B=0$$

$$y = x^y \xrightarrow{x=2} y = 4 \int (2, 4) \quad y^{Ax+B} = 4 \Rightarrow y^{A+B} = y^y \Rightarrow y^{A+B} = y^y$$

$$A+B=0 \Rightarrow A=2-B \Rightarrow -y^B + B = 2 \Rightarrow \boxed{B=-1} \quad \boxed{A=1}$$

$$x=0 \Rightarrow y^B \Rightarrow y^{-1} = \left(\frac{1}{y}\right)$$

نقطه انقلابی تابع یا محور

$$\log_y(\epsilon^x + \omega) = x + y \Rightarrow y^{x+y} = \epsilon^x + \omega \Rightarrow y^x \times y^y = (y^y)^x + \omega$$

$$y^x = t \Rightarrow tx + 1 = t^y + \omega \Rightarrow t^y - xt + \omega = 0 \rightarrow t = y^x \Rightarrow y^x$$

$$x_1 = \log_y y^y \quad x_2 = \log_y \omega$$

$$x_1 + x_2 = \log_y y^y + \log_y \omega = \log_y \omega$$

$$(\log_y y^y)^y + \log_y (\epsilon^y) \log_y (\epsilon^y) \rightarrow \epsilon^y \times y^y$$

$$(\log_y y^y)^y + \log_y (\epsilon^y) (\log_y \epsilon^y + y \log_y y^y) \Rightarrow (\log_y y^y)^y + (\log_y \epsilon^y)^y + y \log_y \epsilon^y \log_y y^y$$

$$(\log_y y^y + \log_y \epsilon^y)^y = (\log_y \epsilon^y \times \epsilon^y)^y = (\log_y \epsilon^y)^y \times (\epsilon^y)^y = y^y \times \epsilon^y$$

$$\log(x^2 - 2x + 1) + y \log(1-x) = \omega \quad \log \frac{(-x)}{y} = ? \quad y \quad x^2 - 4 \Rightarrow \log_y 9$$

$$x^2 - 2x + 1 > 0 \Rightarrow (x-1)^2 > 0 \quad 1-x > 0 \Rightarrow x < 1 \Rightarrow \text{Domain } x < 1$$

$$\log(x-1)^y = y \log|x-1| \Rightarrow y \log|1-x| \Rightarrow y(\log(1-x) + y \log(1-x)) = \omega$$

$$\frac{\omega}{y} \log(1-x) = \frac{\omega}{y} \Rightarrow \log(1-x) = 1 \Rightarrow 1-x = 10^1 \Rightarrow x = -4$$

$$\log_y (x^y + yx + \epsilon) + \log_y (x-y) = y \quad \log_y \frac{x}{y^y} = ?$$

$$\log_y (x^y + yx + \epsilon)(x-y) = y \Rightarrow (x^y + yx + \epsilon)(x-y) = y^y$$

$$x^y - y^y = y^y \Rightarrow x^y = 2y^y \Rightarrow x^y = y^y \Rightarrow x = y^{\frac{y}{y}} = y$$

$$\log_y \frac{x}{y^y} \Rightarrow \frac{y}{y^y} \log_y y = \left(\frac{1}{y}\right)$$

$$\log(y-x) - \log \frac{1}{(x-y)^2} = 3$$

$$\log \frac{(-x)}{\sqrt{x}} = 5$$

$$(x-y)^2 = (y-x)^2 = 10^3 \Rightarrow \log(y-x) - \log(y-x)^{-2} = 3$$

$$\Rightarrow \log(y-x) - (-2 \log(y-x)) = 3 \Rightarrow 3 = \log(y-x) \times 3$$

$$\log(y-x) = 1 \Rightarrow y-x=10 \Rightarrow x=-1$$

$$\log \frac{x^2 y^3}{y^2} \Rightarrow \frac{2}{1} \log x + \frac{3}{1} \log y = 9$$

$$\mu \cdot x^{2-y} = 11^x$$

$$\log \frac{(x-y)}{4} = 5$$

$$\mu \cdot x^{2-y} = (\mu^x)^x \Rightarrow x^{2-y} = \epsilon x \Rightarrow x^2 - \epsilon x - y = 0$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow \frac{\epsilon \pm \sqrt{\epsilon^2 - 4(-y)}}{2} \Rightarrow x_1 = \frac{\epsilon + \sqrt{\epsilon^2 + 4y}}{2}$$

عقود $x_2 = \frac{\epsilon - \sqrt{\epsilon^2 + 4y}}{2}$ و $x_1 - y > 0$ (لأنه موجب)

$$\log \frac{(y+\sqrt{y^2+4})}{4} = 1$$

$$\log \frac{y+\sqrt{y^2+4}}{4} = \frac{1}{1}$$

$$\log \frac{y}{\mu} = \frac{a}{1}$$

$$\log \frac{1}{11} = 5$$

$$\frac{\log \frac{y}{\mu}}{\log \frac{1}{11}} = \frac{\log \frac{y}{\mu}}{\log \frac{y^2}{\mu^2}} = \frac{\mu \log \frac{y}{\mu}}{\log \mu^2 + \log \frac{y}{\mu}} = \frac{\mu \log \frac{y}{\mu}}{\mu \log \frac{y}{\mu} + \log \frac{y}{\mu}} = \frac{\frac{a}{1}}{\frac{a}{1} + \frac{a}{1}} = \frac{\frac{a}{1}}{\frac{2a}{1}} = \frac{a}{2}$$

$$\log \frac{\mu}{\epsilon} = 0/1$$

$$\log \frac{4}{14} = 5$$

$$\frac{\log \frac{\mu}{\epsilon}}{\log \frac{4}{14}} = \frac{\log \frac{\mu}{\epsilon}}{\log \frac{4 \times \mu}{\epsilon \times 14}} = \frac{\log \frac{\mu}{\epsilon} + \log \frac{1}{14}}{\log \frac{\mu}{\epsilon} + \log \frac{1}{14}} = \frac{1/13}{1/11} = \frac{13}{11}$$

$$(a \log y) x^2 + a x + b \log y = 0$$

$\underbrace{\hspace{2em}}_a \quad \underbrace{\hspace{2em}}_b \quad \underbrace{\hspace{2em}}_c$

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

$$b+c=a \quad -\frac{c}{a} = \dots$$

$$\Rightarrow \frac{b \log y}{a \log y} = 1 \Rightarrow \frac{b}{a} = 1 \Rightarrow a=b$$

$$a+a \log y = a \log y \Rightarrow a=0$$

$$\frac{b}{0} \Rightarrow \dots$$