

$y = 1 - \log_c(ax-b) \rightarrow 1 - \log_c(-b) = 2 \rightarrow \log_c(-b) = -1 \rightarrow \frac{1}{c} = -b$
 $\log_{1/2} a + 2 = 1 \rightarrow \frac{1}{2} = -1/2 a + 2 \rightarrow a = 1$
 $b+c = -\frac{3}{4}$
 $(a+c)b = (1+\frac{1}{c})x - 2 = -3$

$\Rightarrow b+c = -\frac{3}{4} \Rightarrow -\frac{1}{c} + c = -\frac{3}{4} \Rightarrow -1 + c^2 = -\frac{3}{4}c \Rightarrow c^2 + \frac{3}{4}c - 1 = 0$
 $\Rightarrow (c+4)(c-1) = 0 \Rightarrow c = -4 \text{ or } c = 1$
 $\Rightarrow -b = \frac{1}{c} \Rightarrow b = -2$

$F(x) = 1 + cx^{r^a + bx}$
 $F(0) = 1 + c \cdot 0 = \frac{r}{r} \Rightarrow c \cdot 0 = -\frac{1}{r}$
 $F(1) = 1 + c \cdot 1^{r^a + b} = 0 \Rightarrow 1 + c \cdot 1^{r^a + b} = 0$
 $\Rightarrow 1 + (-\frac{1}{r}) \cdot 1^{r^a + b} = 0 \Rightarrow r^a + b = 3 \Rightarrow b = 1$

$F(-1) = ? \Rightarrow 1 + c \cdot (-1)^{r^a + b} = 1 + (-\frac{1}{r}) \cdot (-1)^{r^a + b}$
 $= 1 + (-\frac{1}{r}) \cdot (-1)^{r^a + 1} = 1 + (-\frac{1}{r}) \cdot (-1)^{r^a} \cdot (-1) = 1 - \frac{1}{r} = \frac{r-1}{r}$

$y = c + \log_a(ax+b)$
 $r = c + \log_a b \Rightarrow \log_a(r, fa+b) - \log_a b = -\frac{r}{a}$
 $0 = c + \log_a(r, fa+b)$

$\hookrightarrow \log_a \frac{r, fa+b}{b} = -\frac{r}{a} \Rightarrow \frac{r, fa+b}{b} = a^{-\frac{r}{a}}$
 $\frac{r, fa+b}{b} \cdot \frac{1}{r^a} \Rightarrow \frac{r, fa}{b} + 1 = \frac{1}{r^a} \Rightarrow \frac{r, fa}{b} = \frac{1}{r^a} - 1 = \frac{1-r^a}{r^a} \Rightarrow \frac{a}{b} = \frac{1-r^a}{r^a}$

$F(x) = \log_f(12^x - 21 - x)$
 $12^x - 21 - x > 0 \Rightarrow 12^x - 21 > x$
 $-2^x + 21 = x \Rightarrow 2^x + x - 21 = 0 \Rightarrow x = 1 \Rightarrow a = 1$
 $\Rightarrow x = -2$
 $\hookrightarrow (-\infty, a) \cup (b, +\infty)$
 $a = 1, b = 21$

$F(x) = r + r^b - ax$
 $g(x) = -x^r - rx + a$
 $F(1) = g(1) \Rightarrow r + r^b - a = -1 - r + a \Rightarrow r + r^b - a = -1 - r + a$
 $\Rightarrow r^b - a = -1 - 2r + a \Rightarrow r^b - a = -1 - 2r + a$
 $\Rightarrow r^b - a = -1 - 2r + a \Rightarrow r^b - a = -1 - 2r + a$
 $F^{-1}(10) = -1 \Rightarrow F(-1) = 10 = r + r^b - a = 10 \Rightarrow r^b - a = 10 - r$
 $rb - a = ? \Rightarrow \begin{cases} b - a = 1 \\ b + a = r \end{cases} \Rightarrow b = r, a = 1$
 $\hookrightarrow r(r) - 1 = 1^3$

$$F(x) = -r + \left(\frac{1}{r}\right)^{Ax+B}$$

$$\Leftrightarrow F(r) = -r + \left(\frac{1}{r}\right)^{-r} = -r + 1 = 0$$

$$y = x^r - x \Rightarrow y = x^r - x \xrightarrow{x=1} y=0 \rightarrow A(1,0)$$

$$F(r) = ? \quad y = x^r - x \xrightarrow{x=r} y=r \rightarrow B(r,r)$$

$$\Rightarrow \begin{cases} -r + \left(\frac{1}{r}\right)^{A+B} = 0 \rightarrow \left(\frac{1}{r}\right)^{A+B} = r \Rightarrow A+B = -1 \\ -r + \left(\frac{1}{r}\right)^{rA+B} = r \rightarrow \left(\frac{1}{r}\right)^{rA+B} = r \Rightarrow rA+B = -r \Rightarrow A = -1, B = 0 \end{cases}$$

$$m(t) = m_0 \left(\frac{\lambda}{q}\right)^{\frac{t}{T}} = \frac{1}{r} m_0 = m_0 \left(\frac{\lambda}{q}\right)^t \Rightarrow \left(\frac{\lambda}{q}\right)^t = \frac{1}{r} \Rightarrow \frac{19}{4} \lambda q = r \lambda \cdot \min$$

$$\Rightarrow \log_{\frac{\lambda}{q}} \left(\frac{\lambda}{q}\right)^t = \log_{\frac{\lambda}{q}} \frac{1}{r} \Rightarrow t \log_{\frac{\lambda}{q}} \left(\frac{\lambda}{q}\right) = -\log_{\frac{\lambda}{q}} r$$

$$\log_{\frac{\lambda}{q}}^r = \frac{1/r}{1/q} = \frac{q}{r} \rightarrow \log_{\frac{\lambda}{q}}^r = \frac{q}{r} \Rightarrow t \log_{\frac{\lambda}{q}} \left(\frac{\lambda}{q}\right) = -\log_{\frac{\lambda}{q}}^r \rightarrow t (\log_{\frac{\lambda}{q}}^{\lambda} - \log_{\frac{\lambda}{q}}^q) = -(\log_{\frac{\lambda}{q}}^r + \log_{\frac{\lambda}{q}}^q)$$

$$\log_{\frac{\lambda}{q}}^r = \frac{r/q}{1/r} = \frac{r^2}{q} \rightarrow \log_{\frac{\lambda}{q}}^r = \frac{q}{r^2} \quad \hookrightarrow t (r \times \frac{q}{r^2} - r \times \frac{q}{r}) = -(\frac{q}{r} + \frac{q}{r}) \Rightarrow t \left(\frac{r^2 - r^2 q}{r^2}\right) = -\left(\frac{r^2 + r^2 q}{r^2}\right) \Rightarrow -at = -\frac{r^2}{r} \Rightarrow t = \frac{r^2}{r}$$

$$m(t) = m_0 \left(\frac{v}{\lambda}\right)^{\frac{t}{V}} \Rightarrow \frac{1}{v} m_0 \Rightarrow m_0 \left(\frac{v}{\lambda}\right)^{\frac{t}{V}} = \left(\frac{v}{\lambda}\right)^{\frac{t}{V}} = \frac{1}{v}$$

$$\log_{\frac{v}{\lambda}} \left(\frac{v}{\lambda}\right)^{\frac{t}{V}} = \log_{\frac{v}{\lambda}} \left(\frac{1}{v}\right) = \frac{t}{V} \log_{\frac{v}{\lambda}} \left(\frac{v}{\lambda}\right) = \log_{\frac{v}{\lambda}} \left(\frac{1}{v}\right) \Rightarrow \frac{t}{V} (\log_{\frac{v}{\lambda}}^v - \log_{\frac{v}{\lambda}}^{\lambda}) = -\log_{\frac{v}{\lambda}}^v$$

$$\log_{\frac{v}{\lambda}}^v = 0,4 \rightarrow \log_{\frac{v}{\lambda}}^v = \frac{q}{r}$$

$$\log_{\frac{v}{\lambda}}^r = 1,2 \rightarrow \log_{\frac{v}{\lambda}}^r = \frac{q}{\lambda} \Rightarrow \frac{t}{V} (\log_{\frac{v}{\lambda}}^v - r \log_{\frac{v}{\lambda}}^r) = -\log_{\frac{v}{\lambda}}^v \Rightarrow \frac{t}{V} \left(\frac{q}{r} - r \times \frac{q}{\lambda}\right) = -\frac{q}{r}$$

$$\Rightarrow \frac{t}{V} \left(\frac{r - r^2 q}{r^2}\right) = -\frac{q}{r} \Rightarrow \frac{t}{V} \left(-\frac{q}{r}\right) = -\frac{q}{r} \Rightarrow \frac{t}{V} = 1 \Rightarrow t = V$$

$$F(t) = A \left(\frac{q}{1..}\right)^t = \frac{A}{r} \Rightarrow A \left(\frac{q}{1..}\right)^t = \left(\frac{q}{1..}\right)^t = \frac{1}{r}$$

$$\Rightarrow \log \left(\frac{q}{1..}\right)^t = \log \frac{1}{r} \Rightarrow t (\log q - \log 1..) = -\log r \Rightarrow t (\log q - \log 1..) = -\log r \Rightarrow t (\log q + \log r - r) = -\log r$$

$$\Rightarrow t (2(0,4) + 0,4 \lambda - r) = -0,4 \lambda$$

$$\Rightarrow t (1,2 + 0,4 \lambda - r) = -0,4 \lambda \Rightarrow 0,2 t = -0,4 \lambda \Rightarrow t = 2 \lambda$$

$$\text{الف) } y = r \log x$$

$$\hookrightarrow \log x^r = r \log x$$

$$\text{ب) } = (0, +\infty)$$

$$\hookrightarrow y = \log x^r$$

$$y = r \log x$$

