

نام و نام خانوادگی: ... شماره کلاس: ...

$f(x) = r^{Ax+B}$ $y = x^r$
 $f(1) = 1$, $f(r) = 9 \rightarrow r^{A+B} = 1$, $r^{rA+B} = 9 \rightarrow$
 $r^{rA} = 9 \rightarrow A=1$, $r^{1+B} = 1 \rightarrow B=-1 \rightarrow f(x) = r^{x-1}$
 $x=0 \rightarrow r^{-1} = 1/r \rightarrow 1/r$ ✓

۱

$\log_r^{r^m+1\Delta} = x+r \rightarrow r^{m+1\Delta} = 1 \times r^m \rightarrow r^m = t$
 $t^r - 1t + 1\Delta = 0 \rightarrow (t-r)(t-\Delta) = 0$ $r^{m_1} = r$ $r^{m_2} = \Delta$
 $x_1 = \log_r r$ $x_2 = \log_r \Delta \rightarrow x_1 + x_2 = \log_r \Delta$ ✓

۲

$(\log_r r_1)^r + (1 + \log_r^v r_1)(r + \log_r^r r_1) =$
 $r + r \log_r^v r_1 + \log_r^r r_1 + \log_r^r r_1 \log_r^v r_1$
 $= (\log_r r_1)^r + \log_r^v r_1 \log_r^r r_1 + \log_r^r r_1 + r \log_r^v r_1 \rightarrow (\log_r r_1)^r + \log_r^v r_1 (\log_r r_1)^r + 1 - \log_r^r r_1$ ✓

۳

$\log_r^{(1-n)^r} + r \log_r^{(1-n)} = \Delta \rightarrow \Delta \log_r^{1-n} = \Delta \rightarrow 1-n = 0 \rightarrow n = -9$
 $\log_r^{-n} = \log_r^9 = r$ ✓

۴

$\log_r^{(mr+rm+E)(n-r)} = r \rightarrow x^r - 1 = 1 \rightarrow x = \sqrt[14]{14}$
 $\log_r \frac{x}{\sqrt{r}} = \log_r \frac{\sqrt[14]{14}}{\sqrt{r}} = \log_r^{14} = r$ ✓

۵

$$\log^{(r-m)} - \log \frac{1}{(r-m)^r} = r \rightsquigarrow \log \frac{1}{(r-m)^r} = r \rightarrow r \log^{(r-m)} = r$$

$$\log^{r-m} = 1 \rightarrow r-m+1 = m+1 \checkmark \quad \log^{-m} \sqrt{r} \rightarrow \log \sqrt{r}$$

$$\rightsquigarrow \log \sqrt{r} = 4 \checkmark$$

$$r^{m^r-r} = 1 \rightarrow r^{m^r-r} = r^m \rightarrow r^{r-m-r} = 0$$

$$(r-m)^r - 4 = 0 \rightarrow r-m = \pm \sqrt{4} \rightarrow r-m > 0 \rightarrow r-m = 2 + \sqrt{4}$$

$$\log_{4}^{m+r} \rightarrow \log_{4}^{\sqrt{4}} = \frac{1}{r} \checkmark$$

$$\log_{r}^r = \frac{a}{r} \quad \log_{11}^a = ? \quad \left\{ \log_{r}^r = \frac{a}{r} \rightarrow \log_{r}^r = \frac{1}{a} \right.$$

$$\log_{11}^a = \frac{1}{\log_{11}^a} \quad \log_{11}^a = \log_{11}^r + \log_{11}^a \rightarrow \frac{1}{a} \log_{r}^r + \frac{r}{a} \log_{r}^r$$

$$\rightarrow \frac{1}{r} + \frac{r}{r} \times \frac{1}{a} = \frac{1}{r} + \frac{14}{10a} = \frac{r}{10a} = \frac{1}{a} \rightsquigarrow \log_{11}^a = \frac{a}{10} \checkmark$$

$$\log_{r}^r = 1 \rightarrow \log_{r}^r = 1/9$$

$$\log_{11}^9 = \frac{\log_{r}^9}{\log_{r}^r} = \frac{\log_{r}^r + \log_{r}^r}{\log_{r}^r + \log_{r}^r} = \frac{1/9 + 1}{1/9 + 2} = \frac{1/9 + 1}{2/9} = \frac{10/9}{2/9} = \frac{10}{2} = 5 \checkmark$$

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

$$\frac{1}{x} \rightarrow a \log^r + b \log^r = a \rightarrow \log^{r^a+r^b} = a \rightarrow r^a + r^b = 10^a$$

$$\rightarrow r^b = 10^a \rightarrow \log_{r}^{10^a} = b \rightarrow \log_{r}^{10^a} = \frac{b}{a} \rightarrow (\sqrt{r})^{\log_{r}^{10^a}} = \sqrt{10^a} \checkmark$$