

$$\log^{r-m} - \log^{\frac{1}{m+r}} = r \rightarrow \log^{\frac{1}{(r-m)^r}} = r \xrightarrow{\text{تغییر}} \log^{(-m)} \sqrt{r}$$

$$(r-m)^r = 1 \cdot r \rightarrow r-m = 1 \rightarrow m = r-1$$

$$\log^{\frac{1}{\sqrt{r}}} = \log^{\frac{r}{r+1}} = \boxed{4}$$

$$r^{m^r-r} = \lambda^m \rightarrow r^{r-r} = r^m \rightarrow m^r - r = r^m$$

$$m^r - \varepsilon m - r = 0 \xrightarrow{\text{دو طرفه ضرب}} m = \frac{r \pm r\sqrt{4}}{2}$$

$$\log^{\sqrt{4}} 4 = \boxed{\frac{1}{r}}$$

$\log^{(m-r)} 4$
 اگر در عبارت ضابطه
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$$\log^r = \frac{\omega}{\lambda} \quad \log^{\frac{1}{m}} = \frac{\log^{\frac{1}{r}}}{\log^{\frac{1}{r}}} = \frac{\log^{r^m}}{r} = r \log^{\frac{r}{r}}$$

$$\log^{\frac{r}{r+2}} \xrightarrow{\frac{\omega}{\lambda}} \frac{\frac{\omega}{\lambda}}{r + \frac{\omega}{\lambda}} = \frac{\frac{\omega}{\lambda}}{\frac{r\lambda + \omega}{\lambda}} = \boxed{\frac{\omega}{\lambda}}$$

$$\log^{\frac{r}{r}} = \frac{1}{r} = \frac{1}{r} (\log^{\frac{r}{r}})^{\frac{1}{r}} \rightarrow \log^{\frac{r}{r}} = 1, 4$$

$$\log^{\frac{4}{1r}} = \frac{\log^{\frac{4}{r}}}{\log^{\frac{1r}{r}}} = \frac{\log^{\frac{4}{r}}}{\log^{\frac{r^r}{r}}} = \frac{1 + \log^{\frac{4}{r}}}{r + \log^{\frac{4}{r}}} = \frac{r, 4}{r, 4} = \frac{r^4}{r^4} = \boxed{\frac{1}{18}}$$

$$(a \log^r)^m + a^m + b \log^r = 0 \xrightarrow{m=1} a \log^r + b \log^r - a = 0$$

$$\log^r (a+b) = a \rightarrow \log^r = \frac{a}{b+a} \xrightarrow{\text{تغییر}} \frac{\log^r}{1 - \log^r} = \frac{a}{b}$$

$$\sqrt[r]{\frac{a}{b}} = \frac{1}{r} (\log^{\frac{a}{b}})^{\frac{1}{r}} = \frac{1}{r} \log^{\frac{a}{b}} = \boxed{\sqrt[r]{a}}$$