

19, 75

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۲۳ کلاس بزرگسال

$$\log_{mn} m^n = \log_{mn} m + \log_{mn} n = 1 + \log_{mn} n \rightarrow \frac{1}{\log_{mn} m} = \frac{1}{1 + \log_{mn} n}$$

$$\log_{mn} m = a \rightarrow \log_{mn} n = \frac{1}{a} \Rightarrow \frac{1}{1 + \frac{1}{a}} = \frac{a}{a+1} \Rightarrow b = 1 + \frac{a}{a+1}$$

پسین ۱ و ۱

$$\Rightarrow [b] = 1 \rightarrow \text{جواب}$$

(الف)

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

۱- و ۲ بنایه توابعه باشند

$$x^2 - x - 2 > 0 \rightarrow (x-2)(x+1) > 0$$

$$\sqrt{x^2 - 1} > 0 \rightarrow x^2 - 1 > 0 \rightarrow x > 1 \text{ یا } x < -1$$

(ب)

$$y = \sqrt{\frac{x}{\log \frac{x}{x-1}}}$$

عقود

$$\frac{x}{\log \frac{x}{x-1}} > 0 \rightarrow \begin{cases} x < 0 \\ \log \frac{x}{x-1} < 0 \rightarrow x > 1 \end{cases}$$

$$\frac{x}{\log \frac{x}{x-1}} > 0 \rightarrow \begin{cases} x > 0 \\ \log \frac{x}{x-1} > 0 \rightarrow x < 1 \end{cases}$$

جواب

$$D_f = \mathbb{R} - [-1, 2]$$

$$D_f = (0, 1)$$

$$2 \log_a a + \log_a \sqrt{a} = 2$$

$$\log_a a = t \quad \log_a \sqrt{a} = \frac{t}{2}$$

$$\frac{2}{t} + \frac{t}{2} = 2 \rightarrow t = 2 \quad \log_a a = 2 \xrightarrow{a=9} \log_9 9 = 2 \Rightarrow a = 9$$

$$(\log \frac{2}{r}) x^r + (\log 9) x - \log 18 = 0$$

$$\log 10 + \log \frac{2}{r} = 1 + \log 2 - \log r = (1, 1)$$

$$\log 2^r = 2 \log 2 = 0.63$$

$$\log 10 \times \frac{1}{9} = \log 10 + \log \frac{1}{9} = 1 - \log 9 = 1 - \log 3 \times 3 = 1 - 0.477 = 0.523$$

$$0.523 x^r + 0.63 x - 1.1 = 0 \xrightarrow{a+b+c=0} x = 1 \quad x = \frac{-11}{2} \text{ اختلاف باشد} = 1 - (-\frac{11}{2}) = \frac{12}{2} \rightarrow \text{جواب}$$

$$\log_r r = \frac{\log r}{\log r} = 1 \Rightarrow \log r = 1 \log r$$

$$\log_r r = \frac{\log r}{\log r} = 1 \Rightarrow \log r = 2 \log r$$

$$\log_{12} 10 = \frac{\log 10}{\log 12} = \frac{\log 2 + \log 5}{\log 2 + \log 3} = \frac{\log 2 + 2 \log 3}{\log 2 + 2 \log 3} = \frac{2 \log 3}{2 \log 3} = 1 \rightarrow \text{جواب}$$

$$\log_2 \Delta = \frac{\log \Delta}{\log 2} = 1,8 \rightarrow \log \Delta = 1,8 \log 2$$

$$\log r_r = \frac{\log r}{\log r} = 14 \rightarrow \log r = \frac{\partial}{\Delta} \log r$$

$$\log_{10} 4 = \frac{\log 4}{\log 10} = \frac{\log 5 + \log 8}{\log 5 + \log 8} = \frac{\frac{8}{\lambda} \log 5 + \log 8}{\log 5 + 1,8 \log 8} = \frac{\frac{13}{\lambda} \log 8}{\frac{8}{\lambda} \log 8} = \boxed{\frac{13}{8}}$$

$$\log_{\frac{1}{n}} n = m \rightarrow \frac{\log n}{\log \frac{1}{n}} = m \rightarrow \frac{\log 9 + \log 5}{\log n} = \log_{\frac{1}{n}} 9 + \cancel{\log_{\frac{1}{n}} 5} = m$$

$$\rightarrow \log_{r^r} r^r = m - \frac{1}{r} \rightarrow \frac{r}{r} \log_r r^r = m - \frac{1}{r} = \left[\frac{rm}{r} - \frac{1}{r} = \log_r r^r \right]$$

$$\log \frac{r}{\Sigma} = \frac{\log r}{\log \Sigma} = \frac{\log \Sigma + \log r}{\log \Sigma} = 1 + \log \frac{r}{\Sigma} = 1 + \frac{1}{r} \log \frac{r}{\Sigma} = 1 + \frac{1}{r} \times \left(\frac{r_m}{r} - \frac{1}{r} \right) = \frac{r_m + r}{\Sigma}$$

$$\left(\frac{r}{a}\right)^{r_{n-1}} = \left(\frac{a^r}{r^r}\right)^{r^r} \rightarrow \left(\frac{r}{a}\right)^{-r r^r} = \left(\frac{r}{a}\right)^{r_{n-1}}$$

$$-r_n^c = r_{n-1} \rightarrow r_n^c + r_{n-1} = 0 \rightarrow r = -1$$

$$\begin{array}{ccc} \log(9x+1) & \xrightarrow{x=-1} & 0 \\ \wedge & & \Sigma \\ & \searrow x=\frac{1}{r} & \\ \log r & \longleftarrow & \log r \end{array}$$

جواب $\rightarrow \left(\frac{r}{r_0} \right) = \frac{r}{r_0} \log \frac{r}{r_0} \rightarrow \log \frac{r}{r_0}$

$$\frac{r}{r} (1+a) \rightarrow \frac{r}{r} + \frac{r}{r} \log \frac{r}{r} \Rightarrow \frac{r}{r} + \log_{\wedge} 9 = \log_{\wedge} b$$

$$\log \frac{b}{a} = \frac{r}{r'} \rightarrow \frac{b}{a} = 1^{\frac{r}{r'}} \rightarrow \frac{b}{a} = e \rightarrow b = r'y$$

$$\log(2 \times 2 - 1) = \log 100 = 2 \rightarrow \text{جواب}$$

$$\frac{-b}{-\varepsilon a} = \frac{b}{\varepsilon a} = \alpha + \beta \rightarrow \frac{1}{\alpha + \beta} = \log \varepsilon \Rightarrow \frac{\varepsilon a}{b} = \log \varepsilon \Rightarrow \frac{a}{b} = \log \sqrt{r} \quad b+c = ca$$

$$\left(\frac{1}{\sqrt{r}}\right)^{\frac{c}{a}} \rightarrow \frac{c}{a} = \frac{r_a - b}{a} = r - \frac{b}{a} = r - \log \frac{1}{\sqrt{r}} \rightarrow -\frac{c}{a} = \log \frac{1}{\sqrt{r}} - r$$

$$\left(\frac{\gamma}{\gamma_r}\right)^{\frac{c}{a}} = \left(\frac{\gamma}{\gamma_r}\right)^{\log_{\sqrt{r}} \frac{10}{\gamma_r} - r} = \frac{\gamma^{\log_{\sqrt{r}} \frac{10}{\gamma_r}}}{\gamma_r^r} = \frac{10 \cdot \log \frac{\gamma}{\gamma_r}}{\varepsilon \sqrt{r}} = \frac{10 \cdot \frac{1}{\varepsilon}}{r \cdot \frac{1}{\sqrt{r}}} = \frac{1}{\varepsilon} = \boxed{\sqrt{0}} \quad \checkmark$$

جواب