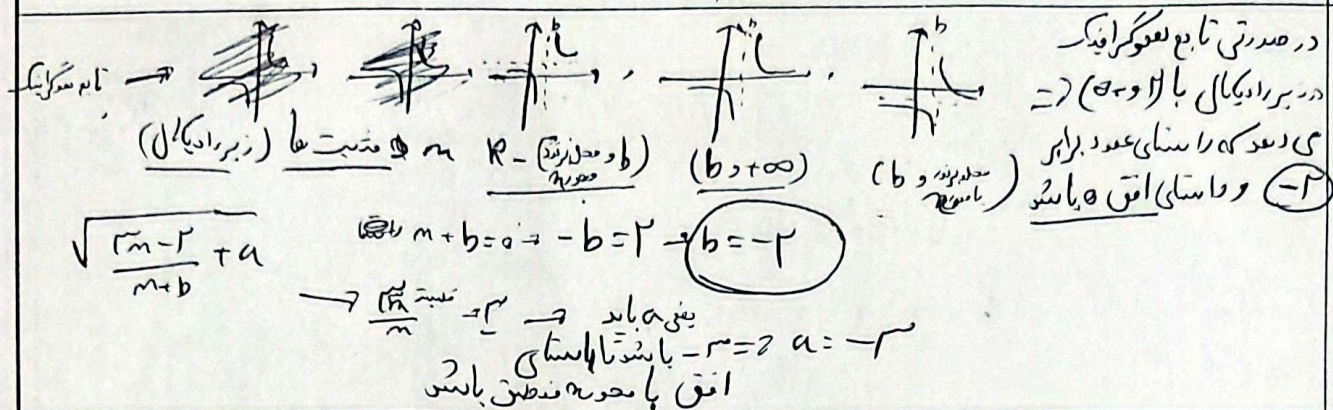


$f(x) = \sqrt{\log_{10} x - 1} \rightarrow x \neq 1, x > 0, x > \frac{1}{10} \quad (1)$
 $\log_{10} x - 1 \geq 0 \rightarrow \log_{10} x \geq 1 \rightarrow x \geq 10 \Rightarrow x > 10 \quad (2)$
 $f(x) > 0 \rightarrow x - 1 \leq 1 \rightarrow x \leq 2 \rightarrow 0 < x \leq 2 \quad (3)$
 $1 \cap 2 \cap 3 = (\frac{1}{10}, 2] \cup (10, \infty)$



$$y = \sqrt{f(m) - n + 1}, \quad f(m) = \begin{cases} r_{m-1}; [n] \geq r \rightarrow n \geq \omega \\ r_{m+r}; [n] \leq r \rightarrow n < \omega \end{cases}$$

بذلك $y = \sqrt{r_{m-1} - n + 1} = \sqrt{n} \rightarrow n \geq \omega \quad \underline{n \geq \omega} \quad \underline{1} \quad \underline{n \geq \omega}$

$$y = \sqrt{r_{m+r} - n + 1} = \sqrt{r_{m+r}} \rightarrow \begin{matrix} n \geq \frac{r}{r} \\ n < \omega \end{matrix} \quad \underline{1} \quad \underline{\left[-\frac{r}{r}, \omega\right)} \quad \underline{\cup \emptyset} \rightarrow \begin{matrix} D = \left[-\frac{r}{r}, \omega\right) \cup [\omega, +\infty) \\ D = \left[-\frac{r}{r}, +\infty\right) \end{matrix}$$

$$y = \frac{r^n r + r^{n+1} n + r}{(r^n + r^{n+1})} = \frac{r^n (1 + r + r^{n+1})}{(r^n + r^{n+1})^2} = \frac{r^n (r^{n+1})}{(r^{n+1})^2} = \frac{r}{r^{n+1}}$$

دالة $\rightarrow (r^n + r^{n+1})^2 \neq 0 \rightarrow (r^{n+1})^2 \neq 0 \rightarrow n = -\frac{1}{r} \quad \mathcal{D} = \mathbb{R} - \{-\frac{1}{r}\}$

$DE = (b, c]$ $y = \sqrt{1 - \log(rm - a)}$ $\nearrow rm - a > 0 \rightarrow m > \frac{a}{r} \text{ (⊗)}$ $\xrightarrow{1} DE = (\frac{a}{r}, a + \frac{a}{r}]$
 $\hookrightarrow 1 > \log(rm - a) \rightarrow 1 > rm - a = a + \frac{a}{r} > m$ $\underline{c - b = a}$