

دوازدهم

کلیف ۲۱

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$$\frac{\sqrt{4x^2 + (m+r)x + \frac{m}{r}}}{|2x^2 + (m-r)x + a^2|} \xrightarrow{\text{از ا ب ب}} \frac{a^2}{a^2} \rightarrow 2a^2 + (m-r)a^2 + a^2 = 0 \rightarrow a^2(2a + m - r) = 0$$

$$a = 0 \Rightarrow x = a \text{ و } \frac{m}{r} \quad (1)$$

$$x = a \Rightarrow \sqrt{4a^2 + (d-r)a + \frac{r-a}{r}} = 0 \rightarrow 4a^2 + 4a + 1 = 0$$

$$(2a+1)^2 = 0 \rightarrow a = -\frac{1}{2}$$

$$\boxed{m = 3}$$

$$\frac{\sqrt{4x^2 + 4x + 1}}{|2x^2 + \frac{1}{2}|} \Rightarrow \frac{\sqrt{\frac{4}{x}}}{|x - \frac{x}{2} + \frac{1}{2}|} = \frac{2 \tan b}{\sqrt{x}}$$

$$\rightarrow x = -\frac{1}{2} \Rightarrow \frac{\sqrt{\frac{4}{x}}}{\frac{4}{x}} = \frac{2 \tan b}{\sqrt{\frac{1}{2}}} = \tan b = \frac{\sqrt{2}}{2} \rightarrow b \begin{cases} \frac{\pi}{4} \text{ و } \frac{5\pi}{4} \\ \frac{3\pi}{4} \text{ و } \frac{7\pi}{4} \end{cases}$$

$$f(x) = \frac{x^2 + ax + b}{x-1} \xrightarrow{\text{حاصل شود}} \left. \begin{matrix} 1+a+b=0 \\ d-a+b=0 \end{matrix} \right\} \rightarrow x=1 \quad \begin{matrix} 1+a+b=0 \\ d-a+b=0 \end{matrix} \rightarrow \begin{matrix} 1+a+b=0 \\ 1-a+b=0 \end{matrix}$$

$$\left[\frac{b-r}{r} \right] = \left[\frac{-3-1}{2} \right] = \left[\frac{-4}{2} \right] = (-2)$$

$$\begin{matrix} 4+2b=0 \\ b=-2 \end{matrix} \quad \boxed{a=2}$$

$$f(x) = \begin{cases} \tan \frac{(2x+1)\pi}{6} & x \leq 1 \xrightarrow{x=1} \tan \frac{3\pi}{6} = -1 \\ \frac{|x^2 + x - 1|}{a(1-x)} & 1 < x < d \rightarrow \frac{|(x+2)(x-1)|}{-a(x-1)} \xrightarrow{\text{مطلوب}} \frac{(x+2)(x-1)}{-a(x-1)} = \frac{x+2}{-a} \\ b(x - [x]) & x \geq d \xrightarrow{x=d} b(d+r) = -\frac{1}{r} \rightarrow 11b = -\frac{1}{r} \rightarrow b = \frac{-1}{11r} \end{cases}$$

$$ab = \frac{-1}{11r} \times r = \frac{-1}{11} \rightarrow (-\frac{1}{11})$$

$$f(x) = a[x+1] + b[x+[a+1]] \xrightarrow{\text{از ا ب ب}} a[x+a] + a + b[a] + b[x] + b$$

$$f(a) = a[a] + a + b[a] + b \rightarrow (a+b)[a] + a + b = -a[a]$$

$$\Rightarrow \frac{a[a]}{f(a)} = \frac{a[a]}{-a[a]} = (-1)$$

$$\begin{matrix} x=0^+ & a+b[a]+b = u \\ x=0^- & b[a] = u \\ & a+b+b[a] = b[a] \\ & a = -b \end{matrix}$$

Parsian