

تکانه

برای

11

21

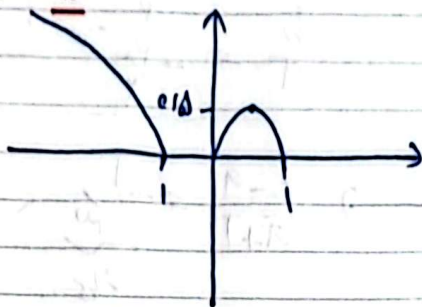
شبه

$$y = \sqrt{m(t-|m|)}$$

$$\begin{array}{c|c|c|c|c} m > 0 & \sqrt{m-m^2} & \Rightarrow & m & | & 1 & | & 10 \\ m < 0 & \sqrt{m+m^2} & \Rightarrow & y & | & 0 & | & 10 \end{array}$$

19 Oct. 2024

1444 ربيع الثاني 10



$$\left. \begin{array}{l} m = 1 \\ h = 0 \\ k = 1 \end{array} \right\} \rightarrow \boxed{a}$$

$$f' = \frac{1}{\sqrt{m}} + \frac{-2}{2\sqrt{m-m^2}} = 0 \rightarrow m = \frac{1}{4}$$

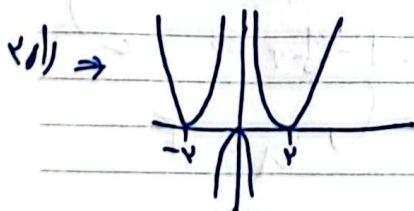
$$Df > 0 \rightarrow m < \frac{1}{4} \rightarrow Df < 0 \rightarrow \frac{1}{4} < m < \frac{1}{2}$$

$$\begin{array}{l} m = 0 \rightarrow \sqrt{a} \\ m = \frac{1}{4} \rightarrow \frac{\sqrt{a}}{2} \\ m = \frac{1}{2} \rightarrow \frac{\sqrt{a}}{\sqrt{2}} \end{array} \rightarrow \begin{array}{l} \text{max} \\ \text{min} \end{array}$$

$$\left. \begin{array}{l} \sqrt{\frac{1}{4}} \sqrt{a} + \sqrt{\frac{1}{4}} \sqrt{a} = \sqrt{a} \\ [1] = \boxed{\frac{1}{4}} \end{array} \right\}$$

$$10b) \Rightarrow f(m) = \frac{m^2}{m^2-1} |m^2-1| \rightarrow m^2-1=0 \rightarrow m = \pm 1$$

$$\frac{m^2}{m^2-1} = 0 \rightarrow \begin{array}{l} 0 \\ \pm 1 \end{array}$$



مركز مستقيم

$$y = am^3 + bm^2 + cm + d \xrightarrow{(1,1)} 1 = a + b + c + d$$

$$ab = \frac{-1}{4}$$

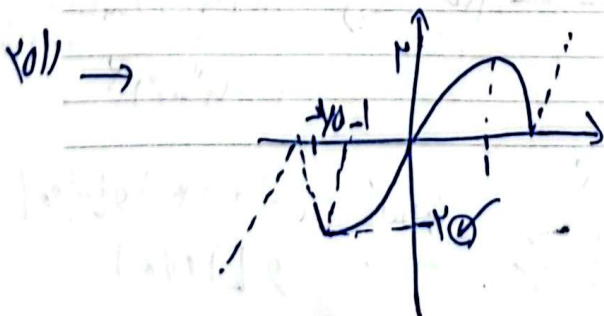
$$(0,0) \rightarrow 0 = 0 + 0 + 0 + d \Rightarrow d = 0$$

$$y' = 3am^2 + 2bm + c \xrightarrow{(0,0)} 1 = 3a + 2b + c \rightarrow 3a + 2b = 0 \rightarrow a = -\frac{2}{3}b$$

$$(0,0) \rightarrow 0 = 0 + 0 + c \Rightarrow c = 0$$

$$b = \frac{1}{2}$$

$$10b) \rightarrow \begin{array}{c|c|c|c|c|c} m & 0 & \sqrt{3} & -1/2 & 1 & 1 \\ y & 0 & 0 & -1/2 & -1 & 1 \end{array} \rightarrow \left(-\frac{1}{2}, -\frac{1}{2} \right)$$



$$m = -1$$

$$y = \frac{2^x}{m} + 3am^2 + b \xrightarrow{f(1)} 1 = 1 + 3a + b \Rightarrow 3a + b = 0$$

$$y' = 2^x \ln 2 + 6am \xrightarrow{f(1)} 1 = 2 - 6a \Rightarrow 6a = 1 \Rightarrow a = \frac{1}{6}$$

علامت منفی بردلیل این است که در استریم کسبی (در صورت منفی است)

$$\Rightarrow 3\left(-\frac{1}{6}\right) + b = 0 \Rightarrow b = \frac{1}{2} \quad \frac{b}{a} = \frac{\frac{1}{2}}{-\frac{1}{6}} = -3$$

محل برخورد $\left(\frac{1-a}{a+1}, \frac{0}{a+1}\right) \rightarrow \frac{1-a}{a+1} = -1 \Rightarrow a = 2$

$$y = \frac{2m+3}{3m+1} \xrightarrow{y=0} m = -1/2$$

$$y = \frac{bm^2 + 3}{3m^2 + am + 1} \quad \text{مجاہدتی} = \frac{b}{3} = +3 \rightarrow b = 12$$

$$\frac{b}{a} = \frac{12}{3} = 4$$

$$1 - \frac{a}{3} + 1 = 0 \Rightarrow a = 6$$

$$f'(m) = \frac{(3m^2)(m^2-1) - (2m^2)(2m)}{(m^2+1)^2} = 0 \rightarrow m^2(m^2-3) = 0$$

$m = 0, \pm\sqrt{3}$

Min = $2\sqrt{3} - 2$

$$f'(m) = \frac{3m^2(m^2-2) - 2m(m^2-3)}{(m^2+1)^2} = 0 \Rightarrow \frac{3m(m^2-1)(m^2-3)}{(m^2+1)^2}$$

m	$-\sqrt{3}$	-1	0	1	$\sqrt{3}$	2
f'(m)	X	-	+	-	+	X

اینجوری $[-1, 0]$ و $(-\sqrt{3}, -2)$ و $[1, \sqrt{3})$