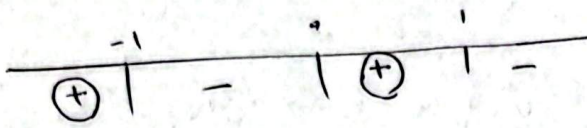


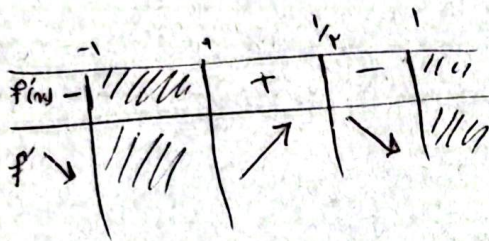
$x(1-|x|) \rightarrow$   $0/1/-1$  ①



جواب های مثبت  
مادر قبل است  $(-\infty, -1] \cup [0, 1)$   
حاصل ضرب را در جواب زنی  
زوج همواره (+) است

$$f(x) \begin{cases} \sqrt{x(1-x)} & 0 \leq x \leq 1 \\ \sqrt{x(x+1)} & x \leq -1 \end{cases} \rightarrow f'(x) = \begin{cases} \frac{1-2x}{2\sqrt{x-x^2}} & 0 < x < 1 \\ \frac{2x+1}{2\sqrt{x^2+x}} & x < -1 \end{cases}$$

\* نبرای تقاطع بحرانی  $\{0, \frac{1}{2}, 1, -1\}$



\* تابع دارای یک نقطه ماکسیمی (M) \* تابع ماکسیمی نیستی (N)

\* دارای یک نقطه بحرانی (K)

حوا  $m+n+k=9 \rightarrow 1+0+k=9 \rightarrow k=8$

$f(m) = \sqrt{m} + \sqrt{a-2m} \rightarrow \begin{cases} m \geq 0 \\ m \leq \frac{a}{2} \end{cases} \Rightarrow D_f = [0, \frac{a}{2}]$  ②

$f'(m) = \frac{1}{2\sqrt{m}} - \frac{1}{\sqrt{a-2m}} = 0 \rightarrow \frac{1}{2\sqrt{m}} = \frac{1}{\sqrt{a-2m}} \rightarrow \frac{1}{4m} = \frac{1}{a-2m} \rightarrow a-2m = 4m \rightarrow a = 6m$

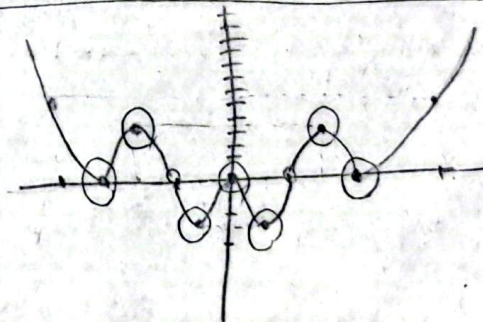
$f(0) = \sqrt{a} / f(\frac{a}{6}) = 2\sqrt{\frac{a}{3}} / f(\frac{a}{6}) = \sqrt{\frac{a}{3}}$

$\frac{a}{6} \leq m$

min, max مقدار  $\rightarrow 2\sqrt{\frac{a}{3}} \times \sqrt{\frac{a}{3}} = \sqrt{4a} \rightarrow \frac{2a}{\sqrt{3}} = \sqrt{4a} \rightarrow 4a = 12 \rightarrow a = 3$  حوا

$f(x) = \frac{x^2}{x^2-1} |x^2-4|$

± 2 حوا



③ استریم نیستی

$\frac{x^2-4x^2}{x^2-1}$	$\frac{-x^2+4x^2}{x^2-1}$	$\frac{x^2-4x^2}{x^2-1}$
--------------------------	---------------------------	--------------------------

$$y = am^m + bm^r + cm + d$$

(K)

$$|A| \rightarrow 0 + 0 + 0 + d \rightarrow \boxed{d = 0}$$

$$|B| \rightarrow |a + b + c + 0| \rightarrow \boxed{a + b + c = 1}$$

$$\rightarrow a - \frac{3}{4}a = 1 \rightarrow -\frac{1}{4}a = 1$$

$$y' = 3am^{r-1} + rbm^{r-1} + c = 0$$

$$\boxed{a = -2}$$

$$|C| \rightarrow 0 + 0 + c = 0 \rightarrow \boxed{c = 0}$$

$$|D| \rightarrow 3a + rb + 0 = 0 \rightarrow \boxed{\frac{3}{4}a = -b} \rightarrow \frac{3}{4} \times (-2) = -b \rightarrow \boxed{b = \frac{3}{2}}$$

$$ab = ? \rightarrow 3 \times (-2) = \boxed{-4} \text{ جواب}$$

115 و 3 بجائے ہیں چونکہ انہیں اولیٰ درجہ ہے

(K)

$$f(x) = 3x - x^3 \rightarrow f'(x) = 3 - 3x^2 = 0 \rightarrow 3 = 3x^2 \rightarrow x^2 = 1 \rightarrow x = \pm 1$$

چونکہ ریشہ  $[-1, 1]$  ہے  
ہر دوہتہ پر ہر دو گاہیوں کے

$$f(-1) = -\frac{3}{4} |3 - 2(1)| = -\frac{3}{4}$$

$$f(-1) = -1 |3 - 1| = -2 \rightarrow \text{min value} \text{ جواب}$$

$$f(1) = |3 - 1| = 2$$

$$f(\sqrt{3}) = \sqrt{3} |3 - 3| = 0$$

$$y = x^n |n| + 3am^r + b \xrightarrow{x=1} 1 + 3a + b = 1 \rightarrow \boxed{3a = -b}$$

(K)

$$y = x^n + 4an \rightarrow 3x^n + 4a = 0 \rightarrow 3 = -4a \rightarrow \boxed{a = -\frac{3}{4}}$$

$$-\frac{3}{4} = -b \rightarrow \boxed{b = \frac{3}{4}}$$

$$\frac{b}{a} = ? \rightarrow \frac{\frac{3}{4}}{-\frac{3}{4}} = \boxed{-1} \text{ جواب}$$

$$f(x) = \frac{3}{4}x^2 + x + \frac{8}{9} \rightarrow f'(x) = 3x + 1 = 0 \rightarrow x = -\frac{1}{3}$$

(K)

$$g(x) = \frac{ax+3}{(a+1)x+(a-1)} \rightarrow y = \frac{a}{a+1} \text{ (میب انجی)} \quad g = \frac{1-a}{a+1} \text{ (میب گیم)}$$

$$\text{نقطہ پر} \left( \frac{1-a}{a+1}, \frac{a}{a+1} \right)$$

$$f\left(-\frac{1}{3}\right) = \frac{3}{4} \times \frac{1}{9} - \frac{1}{3} + \frac{8}{9} = \frac{3}{4} = \frac{3}{4} \Rightarrow \left(-\frac{1}{3}, \frac{3}{4}\right)$$

$$\rightarrow \frac{1-a}{a+1} = -\frac{1}{3} \rightarrow -a - 1 = 3a - 3a \rightarrow 3a = 4 \rightarrow a = \frac{4}{3}$$

$$g(x) = \frac{3x+3}{3x+1} \xrightarrow{y=1} \frac{3x+3}{3x+1} = 1 \rightarrow \boxed{x = -\frac{2}{3}}$$

$$y = \frac{bx^r + v}{kx^r + ax + 1} \xrightarrow{(-\frac{1}{k}, r)} n = -\frac{1}{k} \quad y = x^n$$

(A)

$$\left. \begin{aligned} \frac{b}{k} = y &\rightarrow \frac{b}{k} = x^r \rightarrow b = kx^r \\ k(\frac{1}{k}) - \frac{a}{k} + 1 = 0 &\rightarrow \frac{a}{k} = r \rightarrow a = kr \end{aligned} \right\} \rightarrow \frac{b}{a} = \frac{kr}{k} = r \text{ جواب}$$

$$f(n) = \frac{x^n}{x^n - 1} \rightarrow f'(n) = \frac{kx^n(x^n - 1) - (x^n)(x^n)}{(x^n - 1)^2}$$

(9)

$$\frac{x^4 - 4x^2}{(x^2 - 1)^2} \rightarrow \frac{x^2(x^2 - 4)}{(x^2 - 1)^2} \rightarrow \frac{x^2(x^2 - 4)}{(x^2 - 1)^2} \rightarrow \frac{x^2(x^2 - 4)}{(x^2 - 1)^2} \rightarrow \frac{x^2(x^2 - 4)}{(x^2 - 1)^2}$$

n	0	1	$\sqrt{4}$	$\sqrt{4}$
f'(n)	+	-	-	+
f(n)	↗	↘	↘	↗

نقطه بحر (0, 2) بر طول 2-0=2 در جهت (2,  $\sqrt{4}$ )  
 ابتدا نزولی است درجه سینوس این بازه می شود  
 $2(\sqrt{4} - 1)$  جواب ←

$$f(n) = \frac{x^r - c}{x^r - r} \rightarrow f'(n) = \frac{kx^r(x^r - r) - (x^r)(x^r - c)}{(x^r - r)^2}$$

(B)

$$\rightarrow \frac{kx^r - rx^r - rx^r + cr}{(x^r - r)^2} \rightarrow \frac{rx^r - rx^r + cr}{(x^r - r)^2} = \frac{cr}{(x^r - r)^2} \rightarrow n = \pm \sqrt{r}$$

n	-2	$-\sqrt{r}$	$-\sqrt{r}$	-1	0	1	$\sqrt{r}$	$\sqrt{r}$	2
f'	///	-	+	+	-	+	-	-	+
f	///	↘	↗	↗	↘	↗	↘	↘	↗

نقطه در بازه های  $(-1, 0) / (1 - \sqrt{r}, \sqrt{r})$   
 ابتدا نزولی است ←  $(\sqrt{r}, \sqrt{r}) / (1, \sqrt{r})$   
 جواب →