

۲۴ اسفند ۱۳۹۷

گروه دخترانه دهم A

زهرا دهقان

$$x^2 - ax + b$$

$$1 < x < 3$$

$$\begin{array}{cccc}
 & 1 & & 3 \\
 & | & & | \\
 + & \phi & - & \phi & +
 \end{array}$$

$$\leftarrow 1 < x < 3$$

$$f(x) = a(x - r_1)(x - r_2)$$

$$\Rightarrow (x - 3)(x - 1) = x^2 - \epsilon x + \mu$$

$$-a = -\epsilon \rightarrow a = \epsilon$$

$$b = \mu$$

$$a + b = \epsilon + \mu = \sqrt{\quad}$$

Date:

Sub:

$$y = (k - 2)x + m - 1 \text{ and } (x - 2n)^2$$

$$\frac{m}{n} + k = 8$$

$$= \frac{9}{-1} + 1 = -18$$

x	-1	8
P	$+$	$-$

$$x = -1 \rightarrow -1 - 2n = 0$$

$$n = -\frac{1}{2}$$

$$x = 8 \rightarrow (k - 2)8 + m - 1 = 8k - 16 + m - 1$$

$$= 8k + m - 17 = 0$$

$$x = 10 \rightarrow$$

$$m = 9$$

$$1 = k$$

$$m = 9 - 8k$$

$$(k - 2)10 + m - 1$$

$$= 10k - 20 + m - 1$$

$$9 - 8k$$

$$k = 1$$

المسألة تتطلب إيجاد قيم k و m التي تحقق المعادلتين
 $9k - 17 < 0 \rightarrow k < 2$

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

$$-\frac{1}{4}x^2 + 2x + 4 - \frac{\sqrt{4}}{4} > 0$$

$$-\frac{1}{4}x^2 + 2x + \frac{9}{4} > 0 \xrightarrow{\times -4} x^2 - 8x - 9 < 0$$

$$(x + 1)(x - 9) < 0$$

$$\rightarrow x = -1$$

$$\rightarrow x = 9$$

-1	9
$+$	$-$
CP	

$$(-1, 9)$$

$$\begin{cases} 9 - (-1) = 10 \\ -1 - (9) = -10 \end{cases}$$

$x) \quad f(x) = x^3 - 3x^2 - x + 3$

$f(x) < 0$ دسته

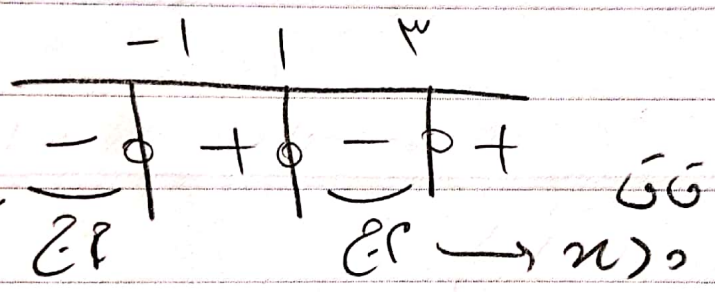
$x^3 - 3x^2 - x + 3 < 0$

$x^2(x-3) - (x-3) < 0$

$(x-3)(x^2-1) < 0$

$x=3$

$x^2=1 \rightarrow x=\pm 1$



دسته

$(1, 3) \rightarrow \frac{1+3}{2} = 2$
 (a, b)

$f(2) = 1 - 12 - 2 + 3 = -10$

Date:

Sub:

$$(a-1)x^2 + (a-1)x + 1$$

$$\Delta < 0$$

$$(a-1)^2 - 4(a-1) < 0$$

$$a^2 + 1 - 4a - 4a + 4 < 0$$

$$a^2 - 8a + 5 < 0$$

$$(a-1)(a-5) < 0$$

$$\hookrightarrow a=1 \quad \hookrightarrow a=5$$

1	5
+ 1	- 5

20	

$$(1, 5)$$

$$a < 0$$

$$(a-1) < 0 \rightarrow a < 1$$

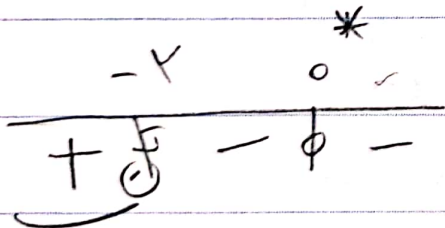
$$\textcircled{1}, \textcircled{2} \rightarrow \emptyset$$

$$\frac{m(m^2 + m)}{m - 2} = \frac{m^2 + m^2}{m - 2}$$

در صورت
 ضرایب $\Delta < 0$
 $a > 0$

$$= \frac{m^2(m^2 + 1)}{m - 2}$$

در صورتی که $m = 2$ یا $m \neq 2$



$m^2 = -1$
 غیر ممکن (هیچ جوابی ندارد)

؟ (جواب) (جواب)

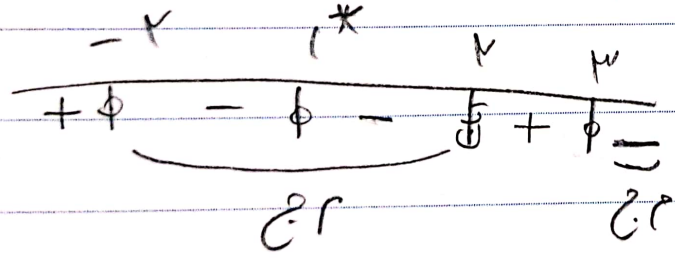
$(-\infty, -2)$

$$\frac{(x^p - x - y)(x - 1)^p}{(x^p + x + 1)(x - y)^p} \leq 0 \rightarrow x = 1 \text{ is a root}$$

$$\Delta < 0 \text{ (no roots), } x^p + x + 1 > 0$$

$$(x - \mu)(x + \nu)$$

$$x = \mu \rightarrow x = -\nu$$



$$[-y, -x) \cup [0, \mu)$$

$$\frac{\gamma n^{\gamma} - \gamma n}{n^{\gamma} + \epsilon} < \gamma \rightarrow \frac{\gamma n^{\gamma} - \gamma n - \gamma}{n^{\gamma} + \epsilon} < 0$$

$$\frac{\gamma n^{\gamma} - \gamma n}{n^{\gamma} + \epsilon} - \frac{\gamma n^{\gamma} + \gamma}{n^{\gamma} + \epsilon} < 0$$

$n = \epsilon$

$n = -\gamma$

$$\frac{n^{\gamma} - \gamma n - 1}{n^{\gamma} + \epsilon} < 0 \rightarrow \frac{(n + \gamma)(n - \epsilon)}{n^{\gamma} + \epsilon} < 0$$

$$\frac{-\gamma \quad \epsilon}{+\quad - \quad - \quad +}$$

2.1 $(-\gamma, \epsilon)$

$$n^{\gamma} = -\epsilon$$

جواب ہے

$$\epsilon - (-\gamma) = \boxed{4}$$

جواب

PITICO

$$-1 < \frac{3x^2 - \epsilon x}{x+1} < 0$$

★

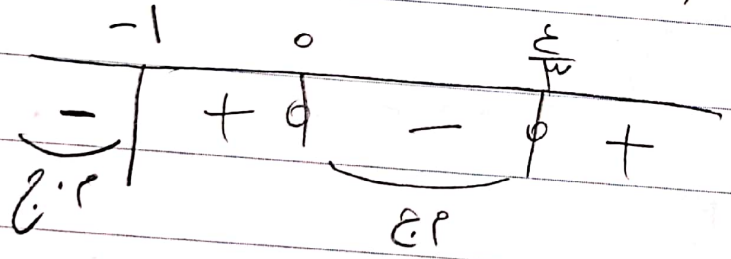
$$\star: \frac{3x^2 - \epsilon x}{x+1} > -1 \rightarrow \frac{3x^2 - \epsilon x}{x+1} + 1 > 0$$

$$\frac{3x^2 - \epsilon x}{x+1} + \frac{x+1}{x+1} > 0 \rightarrow \frac{3x^2 - 3x + 1}{x+1} > 0$$

- ① $3x^2 - 3x + 1 > 0$ $\Delta < 0$ $\rightarrow 3x^2 - 3x + 1 > 0$
- ② $x+1 > 0$ $\rightarrow \frac{1}{x+1} > 0$ $\rightarrow (-\infty, -1)$

$$\star\star: \frac{3x^2 - \epsilon x}{x+1} < 0 \rightarrow \frac{3x^2 - \epsilon x}{x+1} = 0 \rightarrow x(3x - \epsilon) = 0$$

$x \neq -1$ $x = 0$ $x = \frac{\epsilon}{3}$



$$\star\star\star \rightarrow (-\infty, \frac{\epsilon}{3})$$

Date:

Sub:

10

$$\frac{x^2 - 10}{x} \leq 4 \rightarrow \frac{x^2 - 10}{x} - 4 \leq 0$$

$$\frac{x^2 - 10}{x} - \frac{4x}{x} \leq 0 \rightarrow \frac{x^2 - 4x - 10}{x} \leq 0$$

$x = 0$ ←

→ $x = -4$

$$\frac{(x - 0)(x + 4)}{x} \leq 0$$

→ $0 = x$

$$\frac{-4 \quad 0 \quad 0}{- \phi + \phi - \phi +}$$

⊂ ℝ ⊂ ℝ

$$(-\infty, -4] \cup (0, 0]$$

$$(-\infty, -4] \cup (0, 0]$$