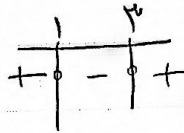


آیا سطر صریح

$a+b=?$

$x^2 - (a+b)x + ab$



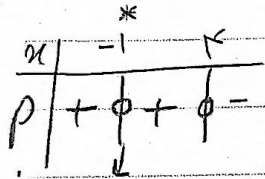
$(x-1)(x-b)$

$a+b = 1+b = 1$

①

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

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



$(x - \frac{m}{n})^2 = 0$
 $-1 - \frac{m}{n} = 0$

$\frac{m}{n} + 1 = -1 + 1 = 0$

$-1 = \frac{m}{n} \rightarrow \boxed{n = \frac{-1}{m}}$

چون علامت عوض نشده

$y = (x-2)(x-4)(x+1)((k-2)x + m-1) = 0$

$\alpha = 2 \rightarrow \alpha k + m - 1 = 0$

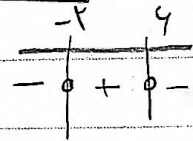
$(k+9-1) < 0 \rightarrow k < -8$
 $k-2 < 0 \rightarrow k < 2$

$k^2 - 1 + m - 1 = 0$
 $k^2 - 9 + m = 0$
 $k^2 + m = 9$

$\rightarrow \boxed{m=0}$

$y = \frac{1}{p}x^2 + 2x + 4 \rightarrow x-2$

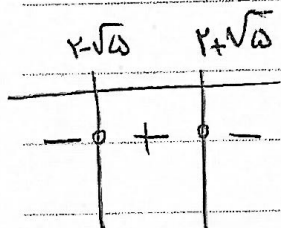
$2x^2 - 4x - 12 = 0$
 $(x-4)(x+2) = 0$



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

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

$\frac{-2 \pm \sqrt{4 + \frac{1}{p}}}{\frac{1}{p}}$
 $x = \frac{1}{p} \quad | \quad x = \frac{1}{p}$



$(a, b) \rightarrow b-a = 2\sqrt{5}$

$f(x) = x^3 - 2x^2 - x + 2 \quad x > 0$

$\hookrightarrow (x-1)(x+1)(x-2)$



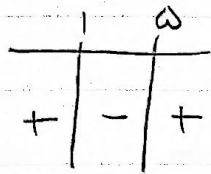
(a, b)
 $\downarrow \quad \downarrow$
 $1 \quad 2$

$f(2) = 2^3 - 2 \times 2^2 - 2 + 2 = -2$

$\frac{1+2}{2} = \frac{3}{2}$ نقطه میانی

$$(a-1)x^2 + (a+1)x + 1 < 0 \quad (3)$$

$$\Delta < 0 \rightarrow (a-1)^2 - 4(a-1) < 0 \quad a^2 + 1 - 2a - 4a + 4 < 0$$

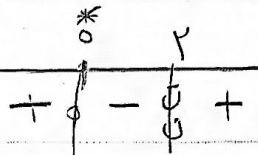


$(1, a)$

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

$$(a-1)(a-3) < 0$$

$$\frac{m(m^2 + m)}{m - 2} > 0 \quad (4)$$



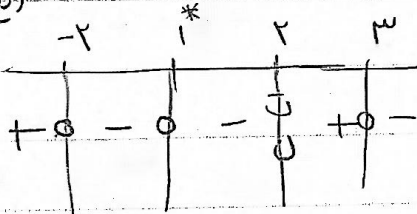
$$\frac{m^2 + m^2}{m - 2} = \frac{m^2(m^2 + 1)}{m - 2}$$

$(2, +\infty)$

$$\frac{(x^2 - x - 2)(x - 1)^2}{(x^2 + x + 1)(2 - x)^2} \leq 0$$

$$\frac{(x - 2)(x + 1)(x - 1)^2}{(x^2 + x + 1)(2 - x)^2} \leq 0$$

Ungleichung
 $\Delta < 0$



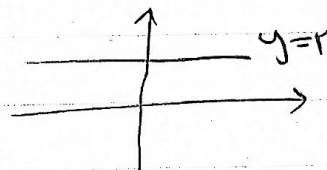
$$x = [-2, 2) \cup [3, +\infty)$$

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

max $b - a = ?$

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

$$\frac{2x^2 - 2x}{x^2 + 4} - \frac{2x^2 + 4}{x^2 + 4} < 0$$



$$\frac{(x - 2)(x + 2)}{x^2 + 4} < 0$$

$$(-2, 2) \rightarrow 2 - (-2) = 4$$

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

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$$\frac{\mu x^2 - \mu x}{x+1} > -1 \rightarrow \frac{\mu x^2 - \mu x + x + 1}{x+1} > 0 \quad \Delta < 0$$

$$\frac{-1}{\phi} + \rightarrow (-1, +\infty)$$

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

$$\begin{array}{c} -1 \quad 0 \quad \frac{\mu}{\mu-1} \\ | \quad | \quad | \\ - \quad + \quad - \quad + \end{array} \rightarrow (-\infty, -1) \cup (0, \frac{\mu}{\mu-1})$$

$$\rightarrow \text{المسألة} : \begin{array}{c} 0 \quad 0 \quad 0 \\ | \quad | \quad | \\ - \quad + \quad - \end{array} \rightarrow (0, \frac{\mu}{\mu-1})$$

$$\frac{x^2 - 10}{x} \leq \mu$$

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

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

$$\begin{array}{c} -\mu \quad 0 \quad \omega \\ | \quad | \quad | \\ - \quad + \quad - \end{array} \rightarrow (-\infty, -\mu] \cup (0, \omega]$$