

$$1 - x^p > 0 \rightarrow 1 > x^p \rightarrow 1 > x > -1 \rightarrow x = -1, 1, 0$$

همه مشترک p و q

$$p, q - \mu p = \{(1, \mu - \mu), (1, \mu - 0), (-1, \mu - 0)\} = \{(0, \mu), (1, \mu), (-1, \mu)\}$$

$p + \mu + \mu = 11$

$$R_p = [\mu, +\infty)$$

$$R_q = (-\infty, \mu]$$

2.

$$p, x - 1 \xrightarrow{x=\mu} q - 1 = \mu$$

$$\frac{1}{\mu}(\mu) + \mu = \mu$$

$$R_p \cup R_q = [\mu, +\infty) \cup (-\infty, \mu]$$

3.

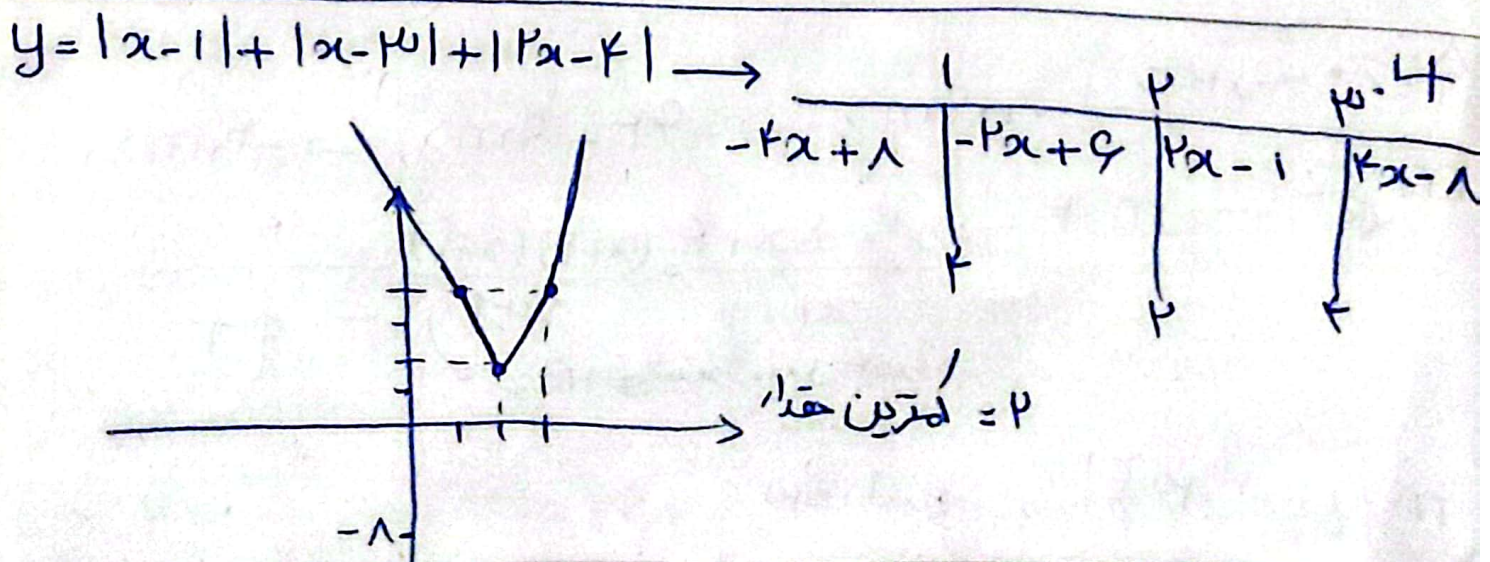
$$y = -\frac{x^p}{p} + x + \mu \rightarrow \frac{-b}{\mu a} = \frac{-1}{-1} = 1 \rightarrow -\frac{1}{p} + 1 + \mu = \frac{\mu}{p}$$

$$-\frac{x^p}{p} + x + \mu > \frac{\mu}{p} \rightarrow -\frac{x^p}{p} + x + \frac{\mu}{p} > 0 \rightarrow -x^p + px + \mu > 0 \rightarrow x^p - px - \mu < 0$$

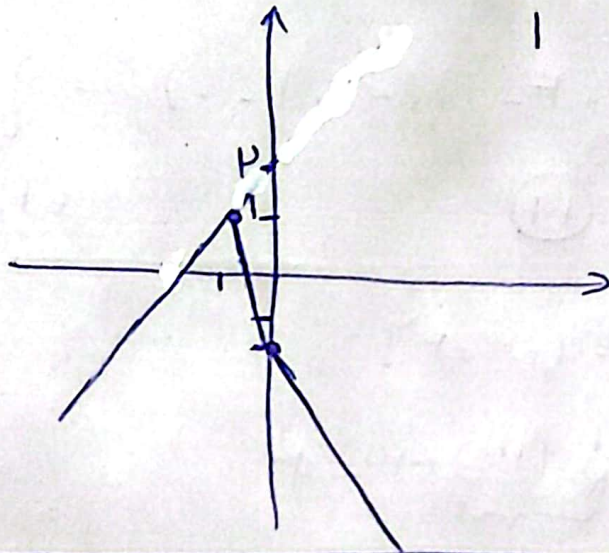
$\mu \swarrow \searrow -1$

$$a = -1, b = \mu \rightarrow \sqrt{b - a} = \sqrt{\mu + 1} = \frac{\mu}{p}$$

$$\begin{array}{c} -1 \quad \mu \\ + \quad - \quad + \end{array}$$



$$y = |x| - p|x+1|$$



$$\begin{array}{l} -x+p \\ x+p \end{array}$$

-1

$$\begin{array}{l} -x-p \\ -px-p \end{array}$$

$$\begin{array}{l} x-p \\ -x-p \end{array}$$

$$Rf = (-\infty, 1]$$

$$y = \frac{xp + \omega x + m}{x+1} \rightarrow yx + y = xp + \omega x + m \rightarrow xp + (\omega - y)x + m - y = 0$$

$$\Delta \geq 0 \rightarrow p\omega + y^p - 1 \cdot y - km + ky = y^p - y + p\omega - km \geq 0$$

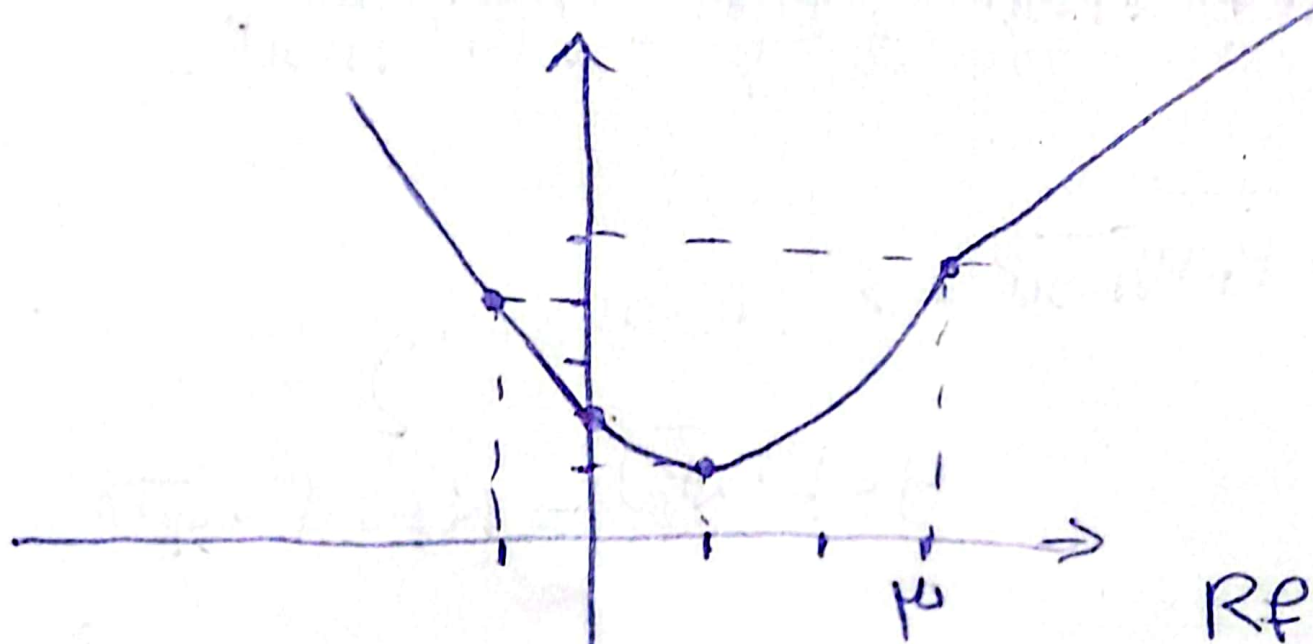
$$x = \frac{-b \pm \sqrt{\Delta}}{pa} \rightarrow \frac{-\omega + y \pm \sqrt{y^p - y + p\omega - km}}{p} = x \rightarrow$$

$$\Delta \geq 0 \rightarrow p\omega - 1 \cdot \omega + 1 \cdot km \geq 0 \rightarrow -\omega + km \geq 0 \rightarrow -k + m \geq 0$$

$$m \leq k \rightarrow m = k \rightarrow \frac{xp + \omega x + k}{x+1} = \frac{(x+k)(x+1)}{x+1} = \frac{k}{1} = k$$

$$m = \{1, p, k\} \rightarrow$$

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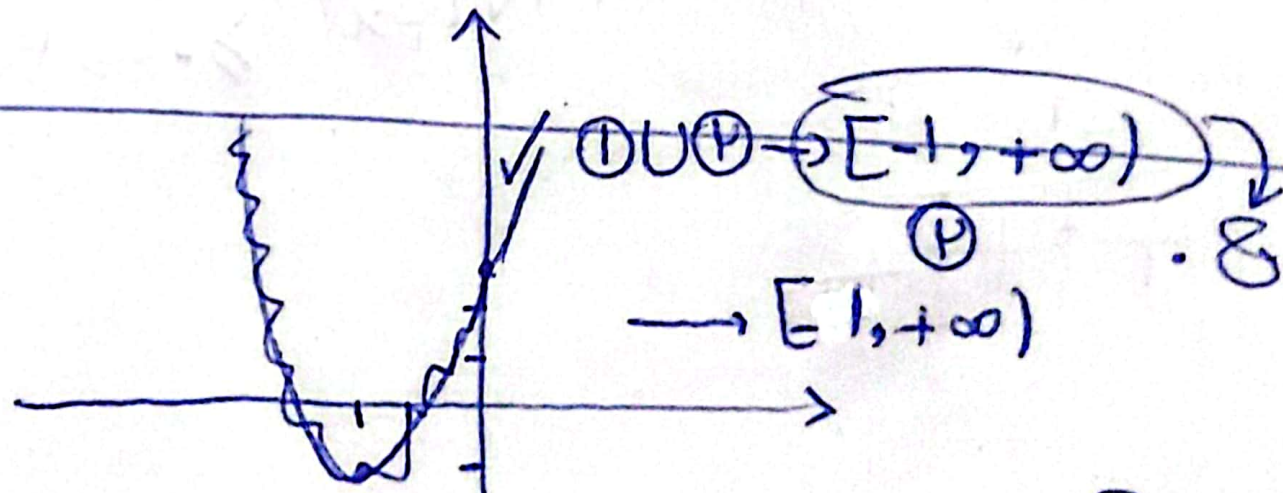
$$\frac{-b}{Pa} = \frac{p}{p} = 1$$

$$y = 1$$

$$Rf = [1, +\infty)$$

$$\frac{-b}{Pa} = \frac{-f}{p} = -p$$

$$y = f - \lambda + \mu = -1$$



$$\textcircled{1} U \textcircled{P} \rightarrow \textcircled{E} [-1, +\infty)$$

$$\rightarrow [1, +\infty)$$

$$[Pa] - Pa \rightarrow \cdot \ll Pa - [Pa] < 1 \rightarrow \cdot \gg [Pa] - Pa > -1 \rightarrow \textcircled{1} (-1, \cdot)$$

$$px + p \geq 0 \rightarrow x \geq -\frac{p}{p}$$

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$$x = -\frac{p}{p} \rightarrow y = a \rightarrow a + 1 - \sqrt{\cdot} = a \rightarrow a = p$$

$$ab = -\frac{p}{p} \times p = -q$$

$$g(x) = p \sqrt{p + p \sqrt{1 - x^p}} - f(x) \quad f(x) = p \sqrt{x+1} + p \sqrt{1-x}$$

$$\frac{f(x)}{q} = \frac{p \sqrt{p + p \sqrt{1 - x^p}} + f(x)}{p} \rightarrow \frac{f(x)}{q} = \sqrt{p + p \sqrt{1 - x^p}} + \frac{f(x)}{p} =$$

$$\frac{p f(x) + p f(x)}{q} = \frac{p f(x)}{q} - \sqrt{p + p \sqrt{1 - x^p}} = \frac{f(x)}{p} - \sqrt{p + p \sqrt{1 - x^p}} =$$

$$\sqrt{x+1} + p \sqrt{1-x} - \sqrt{p + p \sqrt{1-x^p}} = > \quad 1 \geq x \geq -1$$

$\downarrow$ $\downarrow$ $\downarrow$
 $x \geq -1$ $x \leq 1$

$y = [\cdot, \sqrt{p}] \rightarrow R p = [\cdot, \sqrt{p}]$

$$\sqrt{p + p \sqrt{1-x^p}} \rightarrow p + p \sqrt{1-x^p} \geq 0 \rightarrow p \sqrt{1-x^p} \geq -p$$

IR ✓

