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$$f(x) = x^r + 9x^r - 9x + mx^r + r + 1 + 1 \rightarrow 10x^r - rx + r + mx^r + m^r$$

$$f(8) = 10^r$$

$$g(x) = m + n + x + p \quad m = -10 \quad p + 1 = -10 \rightarrow p = -11$$

$$p + x = -1$$

$$x = 10 \rightarrow -10 + (-11) - 10 = -V$$

الف) $x = 2 \rightarrow x^2 - 4x - 8 \neq 0 \rightarrow \frac{4 \pm \sqrt{16+32}}{2} = \frac{4 \pm \sqrt{48}}{2} = 2 \pm 2\sqrt{3}$ (۲)

$D = (-2, 2) \cup (2, +\infty)$

$x = 2 \rightarrow \frac{2}{-1+}$

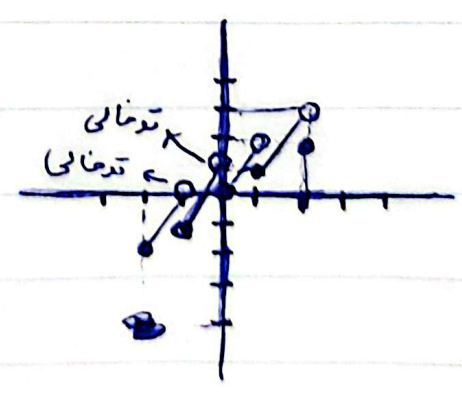
ب) $x - 2[-\infty] \neq 0 \Rightarrow [-\infty] \neq 2 \Rightarrow D = (-\infty, -2]$

ج) $x(x-1) \geq 0 \Rightarrow D = [1, +\infty) \cup [-1, 0]$ (۳)

د) $|x-1| \neq 0 \Rightarrow x \neq 1$ (۱) $\sqrt{12x+1-x^2} \geq 0$ (۲) $\cap (۱) \cap (۲) = [-2, 1) \cup [-1, 3]$

$|x-2|-1 = k \rightarrow |x-2| = k+1 \rightarrow \begin{cases} x-2 = k+1 \\ x-2 = -(k+1) \end{cases}$ (۴)
 $|x-2| = 1 = -k \rightarrow |x-2| = 1-k$
 $x-2 = 1-k \rightarrow x-1 = 1-k+1 \rightarrow k=2$

$x \in [-\infty] \rightarrow [-2, -1) \rightarrow R = [-2, 0)$
 $[-1, 0) \rightarrow R = [-1, 1)$
 $[0, 1) \rightarrow R = [0, 2)$
 $[1, 2) \rightarrow R = [1, 3)$
 $\{2\} \rightarrow R = \{2\}$



$$a = \frac{r}{a} + b, \quad 1 = \frac{0}{1+a} + b \Rightarrow b = 1$$

$$a = -r$$

$$a - b = -r$$

$$f(0) = \frac{-r}{-1} = r$$

$$g(a) = a + c = r$$

$$1 + c = \frac{a+r}{b+1} = f(1) = g(1)$$

$$r = \frac{a+r}{b+1}$$

$$f(1) = g(-1) \Rightarrow$$

$$\frac{r-a}{b-1} = -1+r = 1 \Rightarrow b-1 = r-a$$

$$\frac{r-a}{b-1} = -1+r = 1 \Rightarrow b-1 = r-a$$

$$b = r-a$$

$$\Rightarrow r = \frac{a+r}{r-a} \Rightarrow 1r - ra = a + r$$

$$a = r/a$$

$$\Rightarrow b = 0/a$$

$$b + c = r/a$$

$$Df = f_2 - f_0 \rightarrow f_2 \geq f_0 \rightarrow x \geq \frac{b}{\kappa} a$$

(1)

$$Dg = b - f_2 \geq 0 \rightarrow x \leq \frac{b}{\kappa} \rightarrow \frac{b}{\kappa} = 1 \quad \frac{f_2}{\kappa} = 1 \rightarrow a = \frac{\kappa}{b} b = \kappa$$

$$f_2 - f - f_0 = 0 \rightarrow a = -1 \rightarrow f_2 = \frac{\kappa}{b} - f + 1 < f$$