

① $x=1 \rightarrow \frac{1}{1} \leq a$ 19,5

$-a = 4a - 12 \rightarrow 5a = 12$

$(a-1)(1)^2 + 1a + b = 0 \rightarrow a(\frac{12}{5} - 1) + \frac{12}{5} + b = 0$

$-\frac{1}{5} + \frac{12}{5} + b = 0 \rightarrow b = -\frac{11}{5}$

نقطه

② $x^2 + 2x + 1 - m^2 \geq 0 \rightarrow \Delta \leq 0 \rightarrow 4 - 4(1-m^2) \leq 0$

$m^2 \leq 1 \rightarrow \min -1 \leq m \leq \max 1 \rightarrow 1 - (-1) = 2$

③ $f(x) = \frac{\sqrt{4-x^2}}{[x][-x]+1} \rightarrow 0 \rightarrow -2 \leq x \leq 2$

$\begin{cases} \text{مجموع } x \rightarrow [x] + [-x] = 0 \\ \text{مجموع } x \rightarrow [x] + [-x] = -1 \end{cases} \rightarrow [-1, 2]$

$-2, -1, 0, 1, 2 \rightarrow$

④ $x(x+1) \geq 0 \rightarrow \frac{-1}{+} \frac{0}{+} \rightarrow [-1, 0] \cup [0, +\infty)$

$$\left. \begin{aligned} x^p - 1 &= (x-1)(x+1) \\ x^{p-1}x^p &= x^p(x-1) \\ x^{p-1} &= (x-1)(x^p + x + 1) \end{aligned} \right\} \rightarrow \frac{x^p(x-1)(x+1)(x^p+1)}{(x-1)(x^p+x+1)}$$

$$Df = (-\infty, -1] \cup \{0\} \cup [p, \infty)$$

مثال) $y = \sqrt{|x-1|-p} \geq 0 \rightarrow x-1 \geq p, \mu \rightarrow x-1 \geq p$
 $\downarrow \quad \downarrow$
 $x \geq 1+p \quad x \geq -1$

$$Df = (-\infty, -1] \cup [p, \infty)$$

مثال) $|x-1| \geq p \geq 0 \rightarrow Df = \mathbb{R} \rightarrow$ ~~مجموعه تمام اعداد حقیقی~~
 $|x-1| \geq \varepsilon \rightarrow \begin{aligned} -\varepsilon &\leq x-1 \leq \varepsilon \\ -\varepsilon+1 &\leq x \leq \varepsilon+1 \end{aligned} \rightarrow Df = [-p, p]$

مثال) $y = \sqrt{1-x|x|} \geq 0 \rightarrow x|x| \leq 1 \rightarrow x \leq 0$

$$|x| = -x \rightarrow 1 - x(-x) = 1 + x^2 \rightarrow x \leq 0$$

$$|x| = x \rightarrow 1 - x^2 \geq 0 \rightarrow |x| \leq 1 \rightarrow x \leq 0$$

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

مثال) $\mu - |x-a| \geq 0 \rightarrow |x-a| \leq \mu$

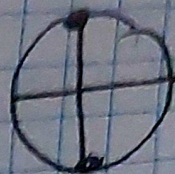
$$1 \leq x \leq 1 \rightarrow \sqrt{1-|x-a|} - 1 \neq 0$$

$$\sqrt{1-|x-a|} = 1 \rightarrow 1-|x-a| = 1 \rightarrow |x-a| = 0$$

$$x = \mu, x = \nu \quad Df = [\mu, \mu] \cup (\mu, \nu) \cup (\nu, \infty)$$

الف) $\rightarrow \sin^p x - 1$

$\cos x \rightarrow \cos x \neq 0 \rightarrow$

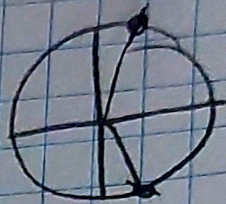


(✓)

$DF = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2} \right\}$

ب) $\frac{\cos x}{\sqrt{\cos x - 1}}$

$\sqrt{\cos x - 1} \rightarrow \cos x \neq \frac{1}{\sqrt{}}$



$DF = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2} \right\}$

د

ج) $y = \frac{x + \sqrt{p}}{\sqrt{x+1} - \sqrt{x+p}}$

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

$(\sqrt{x+1})^p \neq (\sqrt{x+p})^p \rightarrow \varepsilon x^p + \varepsilon x + 1 \neq x^p + \sqrt[p]{p} x^{\frac{p}{p-1}}$

$\sqrt[p]{p} x^p - \sqrt[p]{p} x - 1 \neq 0 \rightarrow \frac{x^p - \sqrt[p]{p} x - 1}{(x+1)(x-p)} \rightarrow x \neq \frac{p}{\sqrt[p]{p}}$

$DF = \mathbb{R} - \left\{ \sqrt[p]{p} - \frac{p}{\sqrt[p]{p}} \right\}$

د) $\sqrt{x+1} - \sqrt{x+p} > 0 \rightarrow \sqrt{x+1} > \sqrt{x+p}$

$(\sqrt{x+1})^p > (\sqrt{x+p})^p \rightarrow \varepsilon (x-1)(x+\varepsilon) > 0$

$DF = (-\infty, -\frac{\varepsilon}{\sqrt[p]{p}}) \cup (1+\varepsilon, \infty)$

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$$\sqrt{x-1} > 0 \rightarrow x > 1$$

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$$\sqrt{x-1} > 1 \rightarrow x > 2$$

$$\sqrt{x-1} > 0 \rightarrow x > 1$$

$$\sqrt{x-1} > 0 \rightarrow x > 1$$

$$Df = [1, 2]$$

$$\sqrt{\cos x + 1} > 0 \quad (1/2)$$

(الف)

$$\cos x > -1$$

$$Df = \left(\sqrt{x} \pm \frac{x}{\sqrt{x}} \right)$$

باید بازه بنویسیم! $(\sqrt{x} - \frac{x}{\sqrt{x}})$ و $(\sqrt{x} + \frac{x}{\sqrt{x}})$

$$\log \frac{x-1}{x+1} > 0 \rightarrow \frac{x-1}{x+1} > 1$$

$$\frac{x-1}{x+1} + \frac{x-1}{x+1} = \frac{-4}{x+1}$$

$$Df = (-\infty, -1)$$

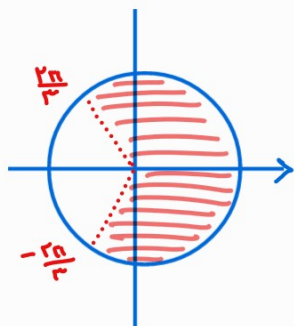
$$a - x = 0$$

$$a = x$$

$$\rightarrow ax + b \rightarrow x = k \rightarrow a + b = c$$

$$ka = -b \rightarrow k(x) = -b \Rightarrow \boxed{b = -4}$$

(الف - ٥) $2C \cdot \sin u + 1 > 0 \rightarrow C \cdot \sin u > -\frac{1}{2}$



$\rightarrow D_f = (rkn - \frac{\pi}{2}, rkn + \frac{\pi}{2})$