

۱۷, ۲۵

$$D = [3, +\infty)$$

$$a - 2 = 0 \Rightarrow \sqrt{2a + b}$$

$$a = 2$$

$$1 \times 3 + b = 0 \Rightarrow b = -4$$

$$2x^2 + 2x + 1 - m^2 > 0$$

$$(x+1)^2 + 1 - m^2 > 0$$

$$\begin{matrix} \downarrow \\ \text{min} \end{matrix} = 0$$

$$\text{Max-min} \rightarrow 1 - (-1) = 2$$

$$1 - m^2 > 0$$

$$1 > m^2$$

$$\begin{matrix} \text{max} \\ \uparrow \\ 1 > m > -1 \end{matrix} \rightarrow \text{min}$$

$$4 - x^2 > 0 \quad x^2 \leq 4 \quad -2 \leq x \leq 2 \rightarrow x \in \{-2, -1, 0, 1, 2\} = A$$

$$[x] + [-x] + 1 \xrightarrow{\text{از } A} x - x + 1 = 1$$

$$S = D \in \mathbb{Z} \rightarrow \{-2, -1, 0, 1, 2\}$$

$$1 \leq x^2(x+3) > 0 \Rightarrow x \in (-\infty, -3] \cup [0, +\infty)$$

($n=0$ به خاطر توان ۲ در بیضه ضرایب)

$$x=1 \Rightarrow x^2(x+3) = 4$$

$$\rightarrow \frac{(x^2-1)(x^2-3x^2)}{x^2-1} > 0 \Rightarrow \frac{x^2(x^2-3)}{x^2-1} > 0$$

۱۲۵

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

$$x=1$$

$$D_f = [-3, +\infty)$$

تجزیه نمود!

۱۷۵

$$|x-2| - 3 > 0$$

$$|x-2| > 3$$

$$x-2 > 3 \rightarrow x > 5$$

$$x-2 < -3 \rightarrow x < -1$$

$$D = (-\infty, -1] \cup [5, +\infty)$$

$$4 - |x-2| > 0$$

هر اینه از تساوی نیست؟

$$|x-2| < 4$$

$$-4 < x-2 < 4$$

$$\rightarrow -2 < x < 6$$

$$D = [-2, 6]$$

$$4 > x > -2$$

۱, ۷۵

$$y = \sqrt{1 - \alpha/\alpha} \quad \alpha/\alpha \leq 1$$

$$D = [-\infty, 1]$$

$$\textcircled{1} \alpha > 0 \rightarrow \alpha^2 < 1 \rightarrow -1 < \alpha < 1 \cap \alpha < 0 \rightarrow \alpha \in [-\infty, 0]$$

$$\textcircled{2} \alpha < 0 \rightarrow -\alpha^2 < 1 \rightarrow \alpha^2 > -1 \rightarrow \sqrt{\text{مقدار}}$$

پس به ازای هر $n \leq 0$ قابل قبول است!

$$D_f = [-\infty, 1] \cup (-\infty, -1] = (-\infty, 1]$$

(1, 1/2)

$$\sqrt{1 - \alpha/\alpha} \neq 1 \rightarrow 1 - \alpha/\alpha \neq 1 \rightarrow \alpha/\alpha \neq 0 \rightarrow \alpha \neq 0$$

$$1 - \alpha/\alpha > 0 \rightarrow 1 - \alpha/\alpha > 0 \rightarrow -\alpha/\alpha > -1 \rightarrow \alpha/\alpha < 1$$

$$\Rightarrow D = [-1, 1] \cup (-1, 1] \cup (1, 1]$$

$$\cos \alpha \neq 0 \quad \alpha \neq k\pi + \pi/2 \quad D = \mathbb{R} - \{k\pi + \pi/2\}$$

$$\cos \alpha - 1 \neq 0$$

$$\cos \alpha \neq 1$$

$$\alpha \neq 2k\pi$$

$$D = \mathbb{R} - \{2k\pi\}$$

(2)

Y

$$|r\alpha + 1| - (\alpha + r) \neq 0 \quad (r\alpha + 1)^2 - (\alpha + r)^2 \neq 0$$

$$(r\alpha + 1 - \alpha - r)(r\alpha + 1 + \alpha + r) \neq 0 \quad (\alpha - r)(r\alpha + 1) \neq 0$$

$$D = \mathbb{R} - \{1, -\frac{1}{r}\}$$

$$|r\alpha + 1| - (\alpha + r) > 0$$

$$(r\alpha + 1) - (\alpha + r) > 0 \rightarrow (r-1)\alpha > r-1$$

$$\frac{-\frac{1}{r}}{r-1} \quad \frac{r}{r-1}$$

$$D = [-\frac{1}{r}, \frac{r}{r-1}] \cup (\frac{r}{r-1}, \infty)$$

(2)

A

$$r\alpha - 1 > 1 \quad \alpha > 1$$

$$0 < \log_2(r\alpha - 1) \leq 1 \quad \log_2(r\alpha - 1) \leq 1 \quad r\alpha - 1 \leq 2 \quad \alpha \leq \frac{3}{r}$$

$$D = (1, \frac{3}{r}]$$

$$n > \frac{1}{r} \leftarrow r n - 1 > 0$$

$$n > \frac{1}{r} \leftarrow \log_2(r n - 1) > 0 \leftarrow \log_2(r n - 1) > 0$$

$$n \leq \frac{1}{r} \leftarrow \log_2(r n - 1) \leq 0$$

(1)

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$$r \cos \alpha + 1 > 0 \quad \cos \alpha > -\frac{1}{r} \quad (r k \pi - \frac{\pi}{r}, r k \pi + \frac{\pi}{r}) = D$$

$$\log_2\left(\frac{r-1}{r+1}\right) > 0 \quad \frac{r-1}{r+1} > 1 \rightarrow \frac{r-1}{r+1} - 1 > 0$$

(2)

$$\frac{-r}{r+1} > 0 \rightarrow r+1 < 0 \quad r < -1$$

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

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$$4- \text{الف}) \quad n^3 + 3n^2 \geq 0 \rightarrow n^2(n+3) \geq 0 \rightarrow \frac{-3}{- \quad 0 \quad + \quad 0 \quad +} \rightarrow D_f = [-3, +\infty)$$

$$4- \text{ب}) \quad \frac{(n^2-1)(n^3-3n^2)}{(n^3-1)} \geq 0 \rightarrow \frac{(n-1)(n+1)(n^2)(n-3)}{(n-1)(n^2+n+1)} \geq 0 \quad \frac{-1 \quad * \quad * \quad 3}{+ \quad 0 \quad - \quad 0 \quad - \quad 0 \quad +}$$

$\Delta < 0$ همیشه ندارد

$$D_f = (-\infty, -1] \cup \{0\} \cup [3, +\infty)$$

چون $|a| = |a|$

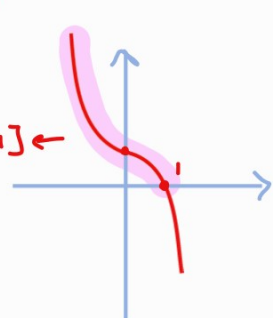
$$5- \text{ب}) \quad 4 - |4-n| \geq 0 \rightarrow |4-n| \leq 4 \rightarrow |n-4| \leq 4 \rightarrow -4 \leq n-4 \leq 4 \rightarrow -2 \leq n \leq 4$$

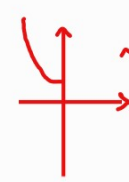
$$D_f = [-2, 4]$$

$$4- \text{الف}) \quad 1 - n|n| \geq 0$$

$n \geq 0 \rightarrow 1 - n^2 \geq 0 \rightarrow n^2 \leq 1 \rightarrow -1 \leq n \leq 1 \xrightarrow{n \geq 0} 0 \leq n \leq 1$

$n \leq 0 \rightarrow 1 + n^2 \geq 0$





همواره مثبت ✓

اجبه مرتعاشیم مثل نابرابری را رسم کنیم

$D_f = (-\infty, 1] \cup [0, +\infty)$

$$9) \quad \log_a \log_a^{n-1} \rightarrow n-1 > 0 \rightarrow n > 1$$

$$\log_a^{n-1} > 0 \rightarrow n-1 > 0 \rightarrow n-1 > 1 \rightarrow n > 2$$

$$\log_a \log_a^{n-1} \geq 0 \xrightarrow[\text{منتهی به 0!}]{\text{منتهی به 0!}} \log_a^{n-1} \leq (1/2) \rightarrow \log_a^{n-1} \leq 1 \rightarrow n-1 \leq 2 \rightarrow n \leq 3$$

$\hookrightarrow D_f = (1, 3]$