

$$\begin{aligned} & \rightarrow (a-2)n^2 + an + b = 0 \rightarrow (a-2)(n-3)^2 \rightarrow (a-2) \times (-4n) = an \\ & \rightarrow -4an + 12n = an \rightarrow 12n = 5an \rightarrow 12 = 5a \rightarrow a = \frac{12}{5} \end{aligned}$$

$$\begin{aligned} & (a-2) \times 9 = b \\ & \frac{12}{5} - 2 \times 9 = b \rightarrow b = -\frac{12}{5} \end{aligned}$$

$$\begin{aligned} & n^2 + 2n + 1 - m^2 \geq 0 \rightarrow (n+1)^2 - m^2 \geq 0 \xrightarrow{n=-1} 1 - m^2 \geq 0 \rightarrow \\ & 1 \geq m^2 \rightarrow 1 \geq m \geq -1 \rightarrow \begin{matrix} \nearrow -1 \\ \searrow 1 \end{matrix} \rightarrow 1 - (-1) = 2 \end{aligned}$$

$$[n] + [-n] + 1 \neq 0 \rightarrow [n] + [-n] \neq -1 \rightarrow D_f = \mathbb{Z} \quad ①$$

$$f - n^2 \geq 0 \rightarrow f \geq n^2 \rightarrow f \geq |n| \rightarrow f \geq n \geq -2 \rightarrow D_f = [-2, 2] \quad ②$$

$$\begin{aligned} & ①, ② \rightarrow D_f = [-2, 2] \rightarrow -\frac{2}{1}, -\frac{1}{1}, 0, \frac{1}{1}, \frac{2}{1} \rightarrow \boxed{68} \end{aligned}$$

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

$$\begin{aligned} & \xrightarrow{\text{مثال}} +, -1, 3 \rightarrow \frac{-1}{-2} + \frac{1}{0} + \frac{3}{+} \rightarrow D_f = [-1, 1) \cup [3, +\infty) \text{ ب.} \\ & n^3 - 1 \neq 0 \rightarrow n^3 \neq 1 \rightarrow \boxed{n \neq 1} \quad \frac{(n^3 - 1)(n^3 - 3n^2)}{n^3 - 1} \geq 0 \end{aligned}$$

$$\begin{aligned} & |n-2| - 3 \geq 0 \rightarrow |n-2| \geq 3 \rightarrow \begin{cases} n-2 \geq 3 \\ n-2 \leq -3 \end{cases} \rightarrow \begin{cases} n \geq 5 \\ n \leq -1 \end{cases} \text{ الف} \\ & D_f = (-\infty, -1] \cup [5, +\infty) \end{aligned}$$

$$\begin{aligned} & f - |2-n| \geq 0 \rightarrow f \geq |2-n| \rightarrow f \geq 2-n \geq -4 \rightarrow 2 \geq n \geq -2 \\ & -2 \leq n \leq 2 \rightarrow D_f = [-2, 2] \end{aligned}$$

$$1 - n|n| \geq 0 \leadsto 1 \geq n|n| \leadsto 1 \geq \frac{0}{4} \leadsto \frac{1}{4} \leq \frac{1}{4} \leadsto D_f = (-\infty, 1]$$

$$\sqrt{x - |n - \delta|} - 1 \neq 0 \leadsto \sqrt{x - |n - \delta|} \neq 1 \leadsto |x - |n - \delta|| \neq 1 \leadsto |n - \delta| \neq x$$

$$\leadsto n - \delta \neq x \text{ or } -x \leadsto \boxed{n \neq x, -x}$$

$$x - |n - \delta| \geq 0 \leadsto x \geq |n - \delta| \leadsto x \geq n - \delta \geq -x \leadsto x \geq n \geq -x$$

$$D_f = [x, \infty) - \{x, -x\} \cup D_f = (x, \infty) \cup (-x, \infty) \cup (-\infty, x]$$

$$\cos n \neq 0 \leadsto n \neq \left\{ k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2} \right\} \leadsto D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2} \right\}$$

$$x \cos n - 1 \neq 0 \leadsto x \cos n \neq 1 \leadsto \cos n \neq \frac{1}{x} \leadsto n \neq \left\{ \arccos \frac{1}{x}, 2\pi - \arccos \frac{1}{x} \right\}$$

$$D_f = \mathbb{R} - \left\{ \arccos \frac{1}{x}, 2\pi - \arccos \frac{1}{x} \right\}$$

$$|x+1| - |x+3| \neq 0$$

$$|x+1| \neq |x+3| \leadsto (x+1)^2 \neq (x+3)^2 \leadsto x^2 + 2x + 1 \neq x^2 + 6x + 9$$

$$\leadsto x^2 + 2x + 1 - x^2 - 6x - 9 \neq 0 \leadsto \Delta = b^2 - 4ac \leadsto 4 - 4(-8) = 36 \leadsto x = \frac{-b \pm \sqrt{\Delta}}{2a}$$

$$\frac{x+1}{4} \leadsto \frac{x}{4} \leadsto D_f = \mathbb{R} - \left\{ -\frac{5}{4}, \frac{3}{4} \right\}$$

$$|x+1| > |x+3| \leadsto (x+1)^2 > (x+3)^2$$

$$x^2 + 2x + 1 > x^2 + 6x + 9 \leadsto x^2 + 2x + 1 - x^2 - 6x - 9 > 0 \leadsto \Delta = 36 \leadsto \frac{x+1}{4} > \frac{x}{4} \leadsto \frac{x+1}{4} > \frac{x}{4}$$

$$D_f = (-\infty, -\frac{5}{4}] \cup [\frac{3}{4}, \infty)$$

$$x-1 > 0 \leadsto x > 1 \leadsto n > \frac{1}{x}$$

$$\log_8(x-1) > 0 \leadsto x-1 > 1 \leadsto x > 2 \leadsto n > \frac{1}{2} \leadsto D_f = (\frac{1}{2}, \infty)$$

$$x \cos n + 1 > 0 \leadsto x \cos n > -1 \leadsto \cos n > -\frac{1}{x}$$

$$D_f = \mathbb{R} - \left[\arccos \left(-\frac{1}{x} \right), \pi - \arccos \left(-\frac{1}{x} \right) \right]$$

$$\frac{n-1}{n+1} > 0 \leadsto -1 < n < 1 \leadsto \frac{-1}{4} < \frac{1}{4} \leadsto D_f = (-\infty, -1) \cup (1, \infty)$$

$$\leadsto n+1 \neq 0 \leadsto n \neq -1$$