

$$a - r = 0 \rightarrow a = r$$

$$(r - r)x^r + rx + b = rx + b$$

$$r(r) + b = 0 \quad b = -4$$

D

$$x^r + rx + r - m^r \geq 0$$

$$\Delta \geq 0 \rightarrow b^r - 4ac \geq 0$$

$$r - 4(r - m^r) \geq 0 \rightarrow r - 4 + 4m^r \geq 0$$

$$-4 + 4m^r \geq 0 \rightarrow 4m^r \geq 4 \rightarrow m^r \geq 1 \rightarrow -1 \leq m \leq 1$$

D

$$1 - (-1) = 2$$

$$r - x^r \geq 0$$

$$x^r \leq r \rightarrow -1 \leq x \leq 1$$

$$[x] + [-x] + 1 \neq 0$$

$$x \in \mathbb{Z} \rightarrow 1 \quad (\checkmark)$$

$$x \notin \mathbb{Z} \rightarrow 0 \quad (\times)$$

$$\rightarrow \frac{1}{-1, -1, 0, 1, 2}$$

D

الف)

$$x^r + rx^r \geq 0$$

$$x^r(x + r) \geq 0$$

$$x = 0 \quad x = -r$$

$$\frac{-r}{-r} + \frac{0}{0} + \frac{r}{r}$$

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

D

ب)

$$\frac{(x^r - 1)(x^r - rx^r)}{x^r - 1} \geq 0$$

$$\frac{(x^r - 1)(x^r - rx^r)}{(x - 1)(x^r + x + 1)} \geq 0$$

$$\Delta = 1 - r < 0$$

$$\frac{(x - 1)(x + 1)(x^r)(x - r)}{(x - 1)} \geq 0$$

$$\frac{-1}{+} \frac{0}{-} \frac{r}{-} \frac{r}{+}$$

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

الف)

$$|x - r| - r \geq 0$$

$$|x - r| \geq r$$

$$x - r \geq r \rightarrow x \geq 2r$$

$$x - r \leq -r \rightarrow x \leq 0$$

$$n - r \leq -r \rightarrow n \leq 0$$

دقت کن!

$$D_f = (-\infty, -2] \cup [2, +\infty)$$

1/50

$$r - |r - x| \geq 0$$

$$|r - x| \leq r \rightarrow -r \leq r - x \leq r$$

$$-4 \leq -x \leq 4 \rightarrow -4 \leq x \leq 4$$

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

الف)

$$1 - x|x| \geq 0$$

$$x|x| \leq 1$$

$$x < 0$$

$$-x^r < 1$$

$$x \geq 0$$

$$x^r \leq 1$$

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

ب)

$$r - |x - 5| \geq 0$$

$$|x - 5| \leq r \rightarrow -r \leq x - 5 \leq r$$

$$r - |x - 5| \neq 1$$

برای اعداد صحیح!

$$r \leq x \leq 1$$

$$D_f = [r, 1] - \{r, 3\}$$

$$|n - 5| \neq r \rightarrow n \neq r, 3$$

1/5

$$\cos x \neq 0$$



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

$$r \cos x - 1 \neq 0$$

$$r \cos x \neq 1$$

$$\cos x \neq \frac{1}{r}$$



$$D_f = \mathbb{R} - \left\{ 2k\pi \pm \frac{\pi}{r} \right\}$$

D

الف)

$$|2x+1| - |x+3| \neq 0$$

$$|2x+1| \neq |x+3|$$

$$(2x+1)^2 \neq (x+3)^2 \rightarrow 4x^2 + 4x + 1 \neq x^2 + 6x + 9$$

$$3x^2 - 2x - 8 \neq 0$$

$$x^2 - 2x - 2 \neq 0$$

$$-4(2)$$

$$(x-4)(x+2) \neq 0$$

$$\frac{4}{x} = 2 \quad \frac{-4}{x}$$

$$D_f = \mathbb{R} - \left\{ -\frac{4}{x}, 2 \right\}$$

$$\Rightarrow |2x+1| - |x+3| \geq 0$$

$$|2x+1| \geq |x+3|$$

$$(2x+1)^2 \geq (x+3)^2 \rightarrow 4x^2 + 4x + 1 \geq x^2 + 6x + 9$$

$$3x^2 - 2x - 8 \geq 0 \rightarrow x^2 - 4x - 2 \geq 0$$

$$\frac{-\frac{2}{3} \pm \sqrt{\frac{4}{9} + 2}}{2}$$

$$D_f = (-\infty, -\frac{4}{x}] \cup [2, +\infty)$$

$$2x-1 > 0$$

$$2x > 1$$

$$x > \frac{1}{2}$$

$$\log_a(2x-1) > 0$$

$$2x-1 > 1$$

$$2x > 2$$

$$x > 1$$

$$\log_{\frac{1}{a}}(2x-1) > 0$$

$$\log_a(2x-1) \leq 1$$

$$2x-1 \leq a \rightarrow 2x \leq 4$$

$$x \leq 2$$

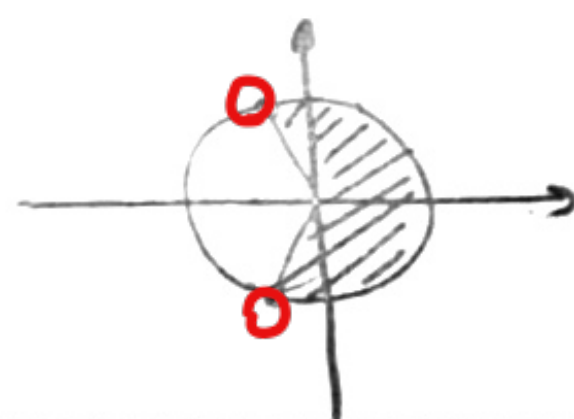
$$\cap \rightarrow 1 < x \leq 2$$

$$D_f = (1, 2]$$

$$2 \cos x + 1 > 0$$

$$2 \cos x > -1$$

$$\cos x > -\frac{1}{2}$$



$$D_f = \left(2k\pi - \frac{\pi}{3}, 2k\pi + \frac{\pi}{3} \right)$$

! 36,1

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

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

$$(-\infty, -1) \cup (1, +\infty)$$

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

$$\log = \ln$$

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

$$\frac{-2}{x+1} > 0$$

$$x+1 < 0$$

$$x < -1$$

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

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

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

$$\text{ب - 4} \quad 3 - |n-5| \geq 0 \rightarrow |n-5| \leq 3 \rightarrow -3 \leq n-5 \leq 3 \rightarrow 2 \leq n \leq 8$$

$$\sqrt{3 - |n-5|} - 1 \neq 0 \rightarrow \sqrt{3 - |n-5|} \neq 1 \rightarrow 3 - |n-5| \neq 2 \rightarrow |n-5| \neq 2 \rightarrow n \neq 7, 3$$

$$D_f = [2, 8] - \{3, 7\} = [2, 3) \cup (3, 7) \cup (7, 8]$$