

۱۷، ۱۷.۵

۶ الف

$$y = \frac{1}{\sqrt{3-|x-2|}} - 1 \neq 0$$

$$3-|x-2| \geq 0$$

$$|x-2| \leq 3$$

$$|x-2| \leq 3$$

$$-3 \leq x-2 \leq 3$$

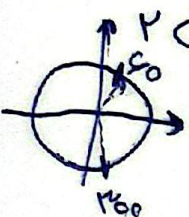
$$-1 \leq x \leq 5$$

$$D_f = [2, 1] - \{3, 5\}$$

$$y = \frac{\cos x}{2\cos x - 1} \neq 0$$

$$2\cos x \neq 1 \rightarrow \cos x \neq \frac{1}{2}$$

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



ب

$$y = \sqrt{1-x|x|} \geq 0$$

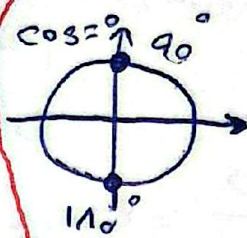
$$x|x| \leq 1$$

همیشه برقرار $\rightarrow$ اگر مثبت $0 \leq x \leq 1$

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

$$y = \frac{\sin^2 x - 1}{\cos x} \neq 0$$

۷ الف



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

۲

$$y = \sqrt{|2x+1| - |x+3|} \geq 0 \quad (ب)$$

$$|2x+1| \geq |x+3| \rightarrow \sqrt{2x+1} \geq \sqrt{x+3} + 0$$

$$2x+1 \geq x+3 \rightarrow (2x-2)(x+3) \geq 0$$

$$x = -\frac{1}{2}, 2$$

$$D_f = (-\infty, -\frac{1}{2}] \cup [2, +\infty)$$

$$y = \frac{x+3}{|2x+1| - |x+3|} \neq 0 \quad (الف) 1$$

$$|2x+1| \neq |x+3| \rightarrow (2x+1)^2 \neq (x+3)^2$$

$$2x+1 \neq x+3 \Rightarrow 2x+1 = x+3 \Rightarrow 2x+1 = x+3 \Rightarrow 2x+1 = x+3$$

$$2x+1 = x+3 \Rightarrow 2x+1 = x+3 \Rightarrow 2x+1 = x+3$$

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

$$x = 2$$

$$D_f = \mathbb{R} - \{-\frac{1}{2}, 2\}$$

$$y = \log(2\cos x + 1) \quad (الف) 10$$

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

$$\cos x > -\frac{1}{2} \quad D_f = (2k\pi - \frac{2\pi}{3}, 2k\pi + \frac{2\pi}{3})$$

$$k \in \mathbb{Z}$$

$$f(x) = \sqrt{\log \log \frac{(x-1)}{x+1}} \geq 0 \quad (م) 9$$

$$y = \sqrt{\log \frac{x-1}{x+1}} \geq 0 \quad (م)$$

$$\frac{x-1}{x+1} > 0 \quad (-1, -1) \cup (1, +\infty)$$

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

$$\textcircled{م} \rightarrow \frac{x-1}{x+1} \geq 1 \rightarrow \frac{x-1}{x+1} \geq 1 \rightarrow x-1 \geq x+1 \rightarrow -2 \geq 0 \rightarrow \text{no solution}$$

$$2x-1 > 0 \rightarrow 2x > 1 \rightarrow x > \frac{1}{2} \quad \textcircled{1}$$

$$\log \frac{(x-1)}{x+1} \leq 1 \rightarrow 2x-1 \leq 1$$

$$2x \leq 2 \rightarrow x \leq 1 \quad \textcircled{2}$$

$$\textcircled{1} \cap \textcircled{2} \rightarrow D_f = (1, 1]$$

$$\textcircled{م} \rightarrow 2x-1 > 1 \rightarrow 2x > 2 \rightarrow x > 1$$

تکلیف ۲

آترسیا آفا صالی

$$\frac{3}{-1+}$$

$$\Delta = 0 \Rightarrow a^2 - 4(a-2)(b) = a^2 - 4ab + 1b = 0 \quad (1)$$

$$x=3 \Rightarrow (a-2)9 + 3a + b = 12a + b = 11 \Rightarrow (12 \times \frac{3}{V}) + b = 11$$

$$9a - 11$$

$$b = -\frac{144}{V} + \frac{126}{V} = -\frac{11}{V}$$

$$\frac{-a \pm \sqrt{0}}{2(a-2)} = \frac{-a}{2a-4} = 3 \Rightarrow \boxed{a = \frac{12}{V}}$$

باید یک خوابید و بابت!

$$f(x) = \sqrt{x^2 + 2x + 2 - m^2} \geq 0$$

$$D_f = \mathbb{R}$$

$$\Delta \leq 0 \Rightarrow b^2 - 4(a)(c) \Rightarrow$$

$$4 - 4(2 - m^2)(1) = 4 - 1 + 4m^2$$

$$4m^2 \leq 0 \Rightarrow 4m^2 \leq 0$$

$$-2 \leq m \leq 2 \Rightarrow \boxed{-1 \leq m \leq 1}$$

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

اختلاف

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

$$4 - x^2 \geq 0 \rightarrow 2 \geq x^2 \rightarrow 2 \geq x \geq -2 \quad (3)$$

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



اعداد صحیح

$$\sqrt{(x^2 - 1)(x^2 - 3x^2)} \geq 0$$

(ب)

$$\sqrt{x^2 + 3x^2} \geq 0$$

(الف)

$$x^2(x + 3) \geq 0$$

$$x^2(x + 3) \geq 0$$

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

$$y = \sqrt{4 - |2 - x|} \geq 0$$

(ب)

$$y = \sqrt{|x - 2| - 3} \geq 0$$

(الف)

$$4 \geq |2 - x| \quad D_f = [-2, 6]$$

$$|x - 2| \geq 3$$

$$4 \geq 2 - x \geq -2$$

$$x - 2 \geq 3 \Rightarrow \boxed{x \geq 5}$$

$$6 \geq x \geq -2$$

$$-3 \geq x - 2$$

$$\boxed{x \leq -1}$$

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

(۱) چون دامنه تک بازه است پس عبارت نمی تواند یک سهم باشد و باید یک خط باشد!

$$a - 2 = 0 \rightarrow a = 2 \rightarrow f(n) = \sqrt{2n + b} \quad D_f = [3, +\infty) \rightarrow 2(3) + b = 0 \rightarrow \boxed{b = -6}$$

ج-۴ $\frac{(n^2-1)(n^2-n^2)}{(n^2-1)} \geq 0 \rightarrow \frac{(n-1)(n+1)(n^2)(n-4)}{(n-1)(n^2+n+1)} \geq 0$

$D_f = (-\infty, -1] \cup \{0\} \cup [3, +\infty)$ ۵۰ ریشه ندارد

-1	*	*	3
+	-	-	+