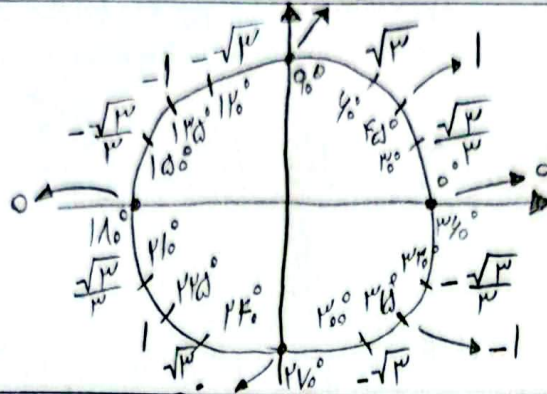


تعریف نشده



تعریف نشده

الف)  $\frac{1}{4} - 1 + 2(-1) = -\frac{5}{4}$

ب)  $-(-\frac{\sqrt{3}}{4}) + \frac{\sqrt{3}}{4} - 2(-\frac{\sqrt{3}}{4}) = \frac{5\sqrt{3}}{4}$

ج)  $-\frac{\sqrt{3}}{4} + 2(\frac{\sqrt{3}}{4}) - 2(-\frac{\sqrt{3}}{4}) = \frac{3\sqrt{3}}{4}$

د)  $\cos(0) + \sin(\frac{\pi}{4}) = 2$

if  $x=a \rightarrow a^2 + 4a = 2a + a + 2 \Rightarrow a^2 + a - 2 = 0 \rightarrow \begin{cases} a=1 \checkmark \\ a=-2 \text{ غلط} \end{cases}$

$f(1) = (1)^2 + f(1) = 5$

$|x+1| \geq 2 \rightarrow \begin{cases} x+1 \geq 2 \Rightarrow x \geq 1 \\ x+1 \leq -2 \Rightarrow x \leq -3 \end{cases}$

if  $x=-3 \Rightarrow 2x^2 - b = a + 2x \Rightarrow 18 - b = a - 4 \Rightarrow \underline{a+b=22}$

الف)  $x^3 - 4x^2 \neq 0 \rightarrow x^2(x-4) \neq 0 \rightarrow \frac{0^*}{-0-0+} \Rightarrow D_f = \mathbb{R} - \{0, 4\}$

ب)  $\frac{\div 2}{x^3 + 2x^2 + x + 2 \neq 0 \rightarrow (x+2)(x^2+1) \neq 0 \rightarrow D_f = \mathbb{R} - \{-2\}$   
 $\Delta < 0$   
 $x^2+1$  همیشه ندارد

الف) 1)  $x^2 - 1 \geq 0 \rightarrow \frac{-1}{+} \frac{1}{-} \rightarrow (-\infty, -1] \cup [1, +\infty)$

2)  $x - 2 \geq 0 \rightarrow x \geq 2 \rightarrow 1 \cap 2 \Rightarrow D_f = [2, +\infty)$

٦

ب) 1)  $4 - 3x \geq 0 \Rightarrow x \leq \frac{4}{3}$   
 2)  $4x - 3 > 0 \Rightarrow x > \frac{3}{4}$  }  $\Rightarrow D_f = (\frac{3}{4}, \frac{4}{3}]$

1)  $4x - a \geq 0 \Rightarrow x \geq \frac{a}{4}$   
 2)  $b - 3x \geq 0 \Rightarrow x \leq \frac{b}{3}$  }  $\Rightarrow \text{if } x = \frac{a}{4} = \frac{b}{3} \Rightarrow \frac{b}{a} = \frac{1}{4}$

٧

الف)  $\sqrt{\frac{(x-3)(x+2)}{(x^2-4)(x^2-9)}} \Rightarrow \frac{-3-2^*}{+1-1-} \frac{2}{-} \frac{3^*}{+1-} \Rightarrow D_f = (-\infty, -3) \cup (2, 3) \cup (3, +\infty)$

ب)  $\sqrt{\frac{(x-1)(x-3)(x+2)}{(x+1)(x-2)(x+3)}} \Rightarrow \frac{-3-2-1}{+1-1-} \frac{1}{+1-} \frac{2}{-} \frac{3}{+1-} \Rightarrow D_f = (-\infty, -3) \cup [-2, -1) \cup [1, 2) \cup [3, +\infty)$

٨

الف)  $2[x] - 4 \geq 0 \Rightarrow [x] \geq 2 \rightarrow D_f = [2, +\infty)$

٩

ب)  $2[x] - 5 \geq 0 \Rightarrow [x] \geq \frac{5}{2} \Rightarrow D_f = [\frac{5}{2}, +\infty)$

الف) 1)  $\frac{x+1}{|x-3|} \geq 0 \rightarrow \frac{-1}{-} \frac{1}{+} \Rightarrow [-1, 3) \cup (3, +\infty)$   
 2)  $\frac{4-x}{x^2+2x+4} \geq 0 \rightarrow 4-x \geq 0 \rightarrow (-\infty, 4]$  }  $1 \cap 2 \Rightarrow D_f = [-1, 3) \cup (3, 4]$

١٠

ب) 1)  $[x] - 4 \geq 0 \rightarrow [x] \geq 4 \Rightarrow x \geq 4$   
 2)  $4 - [x] \geq 0 \rightarrow [x] \leq 4 \Rightarrow x < 5$  }  $1 \cap 2 \Rightarrow D_f = \emptyset$