

۱۷, ۲۵

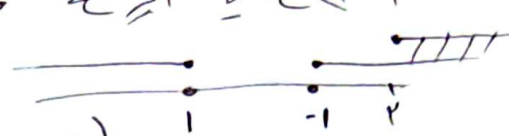
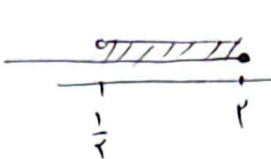
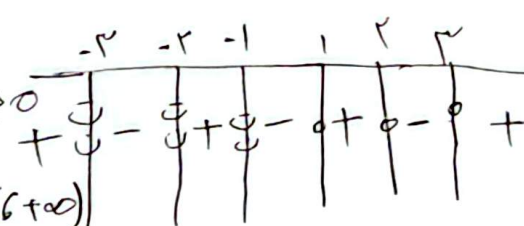
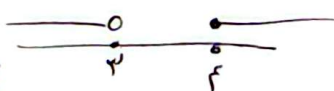
$\tan 110 = 0$ $\tan 119 = \frac{\sqrt{3}}{2}$ $\tan 124 = 1$ $\tan 140 = \sqrt{3}$	$\tan 150 = -\sqrt{3}$ $\tan 90 = \text{قرنی نشده؟}$ $\tan 120 = -\sqrt{3}$ $\tan 138 = -1$ $\tan 160 = -\frac{\sqrt{3}}{2}$	$\tan 114 = -1$ $\tan 120 = 0$ $\tan 130 = \frac{\sqrt{3}}{2}$ $\tan 150 = \sqrt{3}$ $\tan 160 = 1$	$\tan 120 = -\frac{\sqrt{3}}{2}$ $\tan 130 = \frac{\sqrt{3}}{2}$ $\tan 140 = \sqrt{3}$ $\tan 150 = 1$	هر دایره منتهی را رسم کنی؟ صافی آخر دایره را کشیم ۱, ۵	۱
--	--	---	--	---	---

الف) $\frac{\sqrt{3}}{2} + \frac{\sqrt{3}}{2} = \frac{2\sqrt{3}}{2} = \sqrt{3} \times$ ب) $-\frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2} - \frac{2}{2} = -\frac{(\sqrt{3} + \sqrt{3} + 2)}{2} \times$ ج) $\times$ تعریف نشده د) $1 + 1 = 2 \checkmark$	صافی آخر صاف شده! ۱, ۵	۲
---	--------------------------------------	---

$a^2 + 2a = 2a + a + 2$ $a^2 + a - 2 = 0$ $(a+2)(a-1) = 0$ $a = -2 \text{ یا } a = 1$	ترب $a > 0$ $f(1) = 1^2 + f(1) = 1 + 2 = 3$ ۲	۳
--	---	---

$ x+1 \geq 2$ $x+1 \geq 2 \text{ یا } x+1 \leq -2 \xrightarrow{\text{ص}} x \geq 1 \text{ یا } x \leq -3$ if $x = -2 \rightarrow 2(-2)^2 - b = 11 - b$ $\rightarrow a + 2(-2) = a - 6$	$11 - b = a \rightarrow a + b = 2f$ ۲	۴
---	--	---

الف) $x^2 - 4x^2 = 0 \rightarrow x^2(x-4) = 0 \rightarrow x = 4 \text{ یا } 0$ $\xrightarrow{\text{ص}} R - \{0, 4\}$ ب) $\div 2 \rightarrow x^3 + 2x^2 + x + 2 = 0 \rightarrow x^2(x+2) + 1(x+2) = 0$ $\rightarrow (x+2)(x^2+1) = 0 \xrightarrow{\text{دایره}} R - \{-2\}$ ۲	۵
---	---

$x^2 - 1 \geq 0 \rightarrow x^2 \geq 1 \rightarrow x \geq 1 \vee x \leq -1$  $x - 2 \geq 0 \rightarrow x \geq 2 = Df = [2; +\infty)$ ب) $4 - 2x \geq 0 \rightarrow x \leq 2$ $4 - 2x > 0 \rightarrow x > \frac{1}{2}$ 	6
$x \cdot a \geq 0 \rightarrow x \geq a \rightarrow x \geq \frac{a}{x}$ $b - x \geq 0 \rightarrow b \geq x \rightarrow x \leq \frac{b}{x}$ $\frac{a}{x} = 2 \rightarrow a = 12 \rightarrow \frac{a}{b} = \frac{12}{6} = 2$ $\frac{b}{x} = 2 \rightarrow b = 6$ $\left[\frac{b}{x} \leq \frac{a}{x} \right]$	7
الف) $x^2 - x - 6 \geq 0 \rightarrow (x-3)(x+2) \geq 0 \rightarrow x \leq -2 \vee x \geq 3$ ب) $(x-4)^2 \geq 0 \rightarrow x \neq 4 \rightarrow Df = (-\infty; -2] \cup [3; 4) \cup (4; +\infty)$ ب) $\sqrt{\frac{(x-1)(x+2)(x-3)}{(x+1)(x+2)(x-2)}} \geq 0$  $(-\infty; -2) \cup (-2; -1) \cup [1; 2] \cup [3; +\infty)$	8
الف) $2[x] \geq 4 \rightarrow [x] \geq 2 \rightarrow Df = [2; +\infty)$ ب) $2[x] \geq 0 \rightarrow [x] \geq \frac{0}{2} \rightarrow Df = [0; +\infty)$	9
الف) $ x-3 > 0 \rightarrow x \neq 3 \rightarrow \text{مورد} \rightarrow x+1 \geq 0 \rightarrow x \geq -1$ $4-x \geq 0 \rightarrow x \leq 4$ $Df \rightarrow [-1; 3) \cup (3; 4]$ ب) $[x] \geq 4 \rightarrow [x] \leq 2$ $x \geq 4 \quad x < 3$ $Df = \emptyset$ 	10

$$\text{الف - ۲)} \quad \sin \frac{\pi}{4} + \cos \pi + 2 \tan \frac{\pi}{4} = \frac{1}{2} + (-1) + 2(-1) = -\frac{5}{2} < -2, 5$$

$$\text{ب - ۲)} \quad -\cos \frac{\Delta \pi}{4} + \sin \frac{2\pi}{3} - 3 \sin \frac{\pi}{4} = -(-\sqrt{\frac{2}{2}}) + \sqrt{\frac{3}{2}} - 3(-\sqrt{\frac{2}{2}}) = \frac{5\sqrt{2}}{2}$$

$$\text{ج - ۲)} \quad \cos \frac{\pi}{3} + 3 \cos \frac{\pi}{3} - 2 \tan \frac{\Delta \pi}{4} = -\sqrt{\frac{3}{2}} + 3(\sqrt{\frac{3}{2}}) - 2(-\sqrt{\frac{3}{2}}) = \frac{4\sqrt{3}}{2}$$

$$\text{الف - ۸)} \quad y = \sqrt{\frac{n^2 - n - 4}{n^4 - 13n^2 + 44}} \rightsquigarrow \frac{n^2 - n - 4}{n^4 - 13n^2 + 44} \geq 0 \rightsquigarrow \frac{(n-3)(n+2)}{(n^2-9)(n^2-4)} \geq 0$$

$$\frac{(n-3)(n+2)}{(n-3)(n+3)(n-2)(n+2)} \geq 0 \rightsquigarrow \frac{-3 \quad -2 \quad 2 \quad 3}{+ \frac{0}{\cancel{0}} - \frac{0}{\cancel{0}} - \frac{0}{\cancel{0}} + \frac{0}{\cancel{0}} +}$$

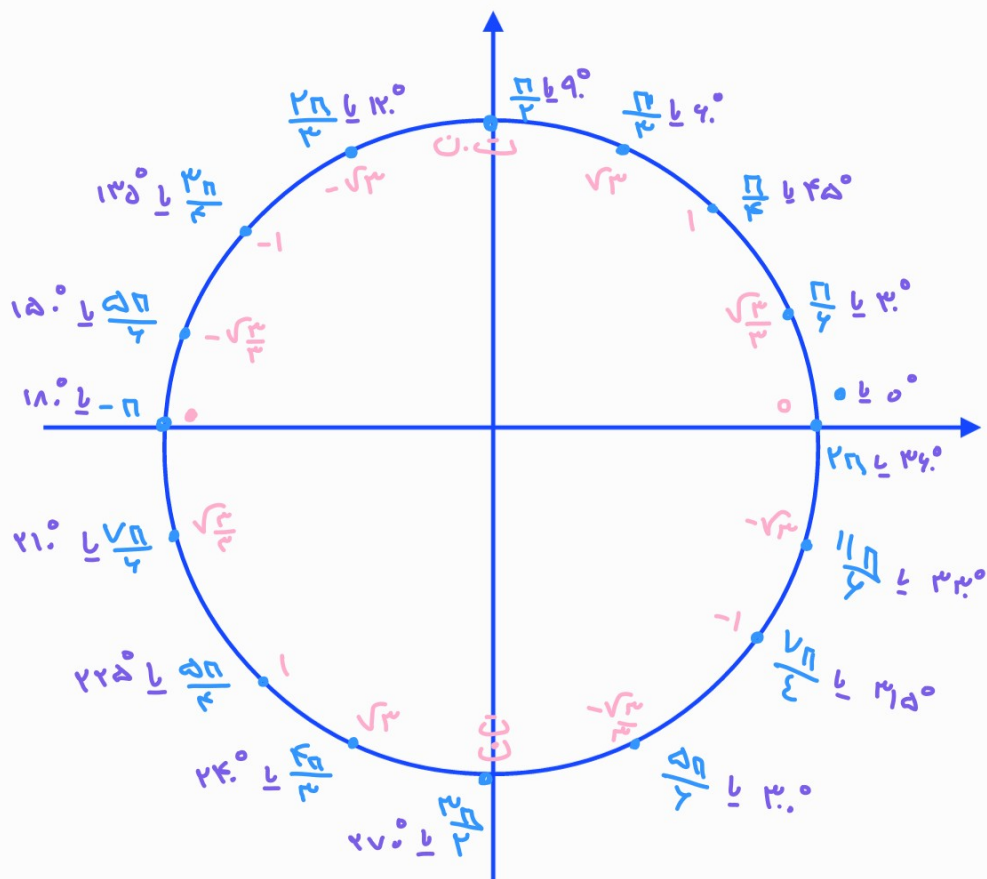
$$D_f = (-\infty, -3) \cup (2, 3) \cup (3, +\infty)$$

$$\text{ب - ۸)} \quad y = \sqrt{\frac{n^3 - 2n^2 - 5n + 4}{n^3 + 2n^2 - 5n - 4}} \rightsquigarrow \frac{n^3 - 2n^2 - 5n + 4}{n^3 + 2n^2 - 5n - 4} \geq 0 \rightsquigarrow$$

← محورهای منفی پذیر بر (n-1)
→ محورهای توان زوج و فرد برابر نفس پذیر بر (n+1)

$$\frac{(n-1)(n^2 - n - 4)}{(n+1)(n^2 + n - 4)} \geq 0 \rightsquigarrow \frac{(n-1)(n-3)(n+2)}{(n+1)(n+3)(n-2)} \geq 0 \rightsquigarrow \frac{-3 \quad -2 \quad -1 \quad 1 \quad 2 \quad 3}{+ \frac{0}{\cancel{0}} - \frac{0}{\cancel{0}} + \frac{0}{\cancel{0}} - \frac{0}{\cancel{0}} + \frac{0}{\cancel{0}} - \frac{0}{\cancel{0}} +}$$

$$D_f = (-\infty, -3) \cup [-2, -1) \cup [1, 2) \cup [3, +\infty)$$



$\tan \leftarrow$ ■
 زاویه بر حسب رادیان $\leftarrow$ ■
 زاویه بر حسب درجه $\leftarrow$ ■

$$\tan x = \frac{\sin x}{\cos x}$$