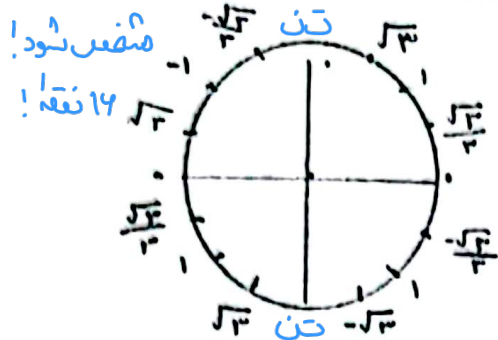




۱, ۵۰

$$۱) \frac{1}{4} - 1 - 2 = \frac{1}{4} - \frac{8}{4} = -\frac{7}{4}$$

$$۲) (-\frac{\sqrt{2}}{4}) + \frac{\sqrt{2}}{4} - 2(-\frac{\sqrt{2}}{4}) = \frac{\sqrt{2}}{4} + \frac{2\sqrt{2}}{4} = \frac{3\sqrt{2}}{4}$$

$$۳) \frac{\sqrt{2}}{4} + 2(\frac{\sqrt{2}}{4}) - 2(-\frac{\sqrt{2}}{4}) = \frac{\sqrt{2}}{4} + \frac{2\sqrt{2}}{4} + \frac{2\sqrt{2}}{4} = \frac{5\sqrt{2}}{4}$$

$$۴) \cos 0 + \sin \frac{\pi}{4} = 1 + 0 = 1 \quad \times$$

$$\begin{aligned} n=1 &\rightarrow 1 + f = 5 \\ n=1 &\rightarrow 2 + a + 2 = f + a \end{aligned} \quad \left. \vphantom{\begin{aligned} n=1 &\rightarrow 1 + f = 5 \\ n=1 &\rightarrow 2 + a + 2 = f + a \end{aligned}} \right\} \rightarrow 5 = f + a \Rightarrow \cancel{a=1}$$

$$f(1) = 5$$

۲

۳

$$n = -2 \rightarrow 2(-2)^2 - b = 18 - b$$

$$n = -2 \rightarrow a + 2(-2) = a - 6 \quad \left. \vphantom{n = -2 \rightarrow a + 2(-2) = a - 6} \right\} a - 6 = 18 - b \rightarrow a + b = 18 + 6 \Rightarrow \cancel{a+b=24}$$

$$n+1 \geq 2 \rightarrow n \geq 1$$

$$n+1 \leq -2 \rightarrow n \leq -3$$

۲

۴

$$۱) x^3 - 4x^2 + 0 \rightarrow x^2(x-4) + 0 \rightarrow ۰ و ۴ ریشه ها \quad p = R - \{-4\}$$

$$۲) p = R \quad \times$$

۱

۵

الف) $x^2 - 1 \geq 0 \rightarrow x^2 \geq 1 \rightarrow x \geq 1 \vee x \leq -1$
 $x - 2 \geq 0 \rightarrow x \geq 2$ } $D = [2, \infty)$

7

ب) $6 - 3m \geq 0 \rightarrow 6 \geq 3m \rightarrow 2 \geq m$
 $5m - 12 > 0 \rightarrow 5m > 12 \rightarrow m > \frac{12}{5}$ } $D = [\frac{12}{5}, 2]$ $\emptyset$

$am - a \geq 0 \rightarrow am \geq a \rightarrow m \geq \frac{a}{a}$

$b - 2m \geq 0 \rightarrow b \geq 2m \rightarrow \frac{b}{2} \geq m$

$\frac{a}{2} \leq m \leq \frac{b}{2}$

$\frac{a}{2} = 2 \rightarrow a = 4$

$\frac{b}{2} = 2 \rightarrow b = 4$

$\frac{b}{2} = \frac{4}{2} = 2$

✓

الف) $\frac{(x-2)(x+2)}{(x-2)(x-4)}$ (بشرط) : $x \neq 2, x \neq 4$ $\frac{x}{x-4}$

$D = (-\infty, 2) \cup (2, 4) \cup (4, \infty)$

ب) $\frac{(x-2)(x-1)(x+2)}{(x-2)(x+1)(x+2)} \geq 0$ $\frac{x}{x-1}$ $D = (-\infty, -2) \cup [-2, -1) \cup (1, 2) \cup [2, \infty)$

الف) $x[m] - 4 \geq 0 \rightarrow [m] \geq 4 \rightarrow [4, \infty)$

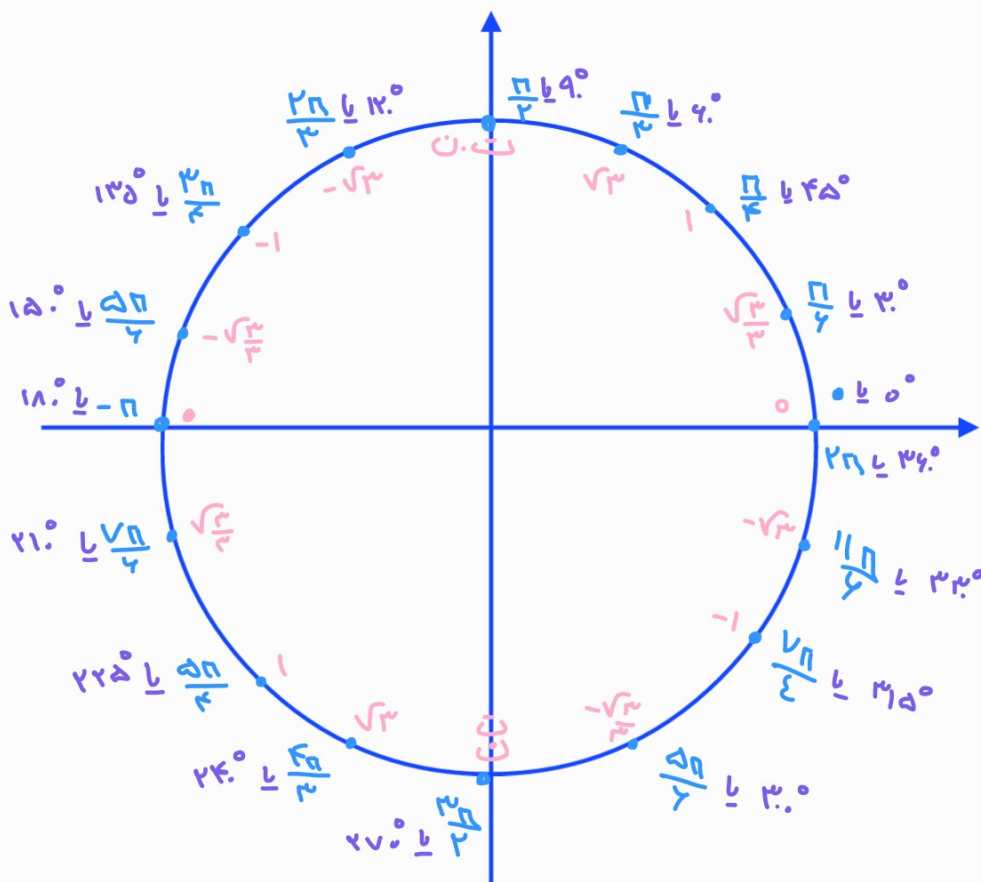
ب) $x[m] - 5 > 0 \rightarrow [m] > 5 \rightarrow (5, \infty)$

الف) $x \neq 2, x \leq 5, D = [1, 5] - \{2\}$

ب) $[x] - 4 \geq 0 \rightarrow [x] \geq 4 \rightarrow [4, \infty)$
 $x - [x] \leq 0 \rightarrow x < [x] \rightarrow [x] > x$
 $[x] \leq 2 \rightarrow x < 2$

9

10



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

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

۲-۱) $\cos(\sin \pi) + \sin(\pi \cos \frac{\pi}{4}) = \cos(\cdot) + \sin(\frac{\pi}{4}) = 1 + 1 = 2$

۵-۱) $y = \frac{1}{x^3 + x^2 + x + 2} \rightarrow 2(x^3 + x^2 + x + 2) = 0$

$2[(x^3 + x) + (x^2 + 2)] = 0 \rightarrow 2[x(x^2 + 1) + 2(x^2 + 1)] = 0$
 $= 2(x^2 + 1)(x + 2) = 0 \rightarrow D_f = \mathbb{R} - \{-2\}$

۱۰-۱) $y = \sqrt{[x] - 4} + \sqrt{2 - [x]}$

$[x] - 4 \geq 0 \rightarrow x \geq 4 \text{ I}$
 $\hookrightarrow [x] \geq 4$
 $2 - [x] \leq 0 \rightarrow x < 3 \text{ II}$
 $\hookrightarrow [x] \leq 2$

$I \cap II \rightarrow D_f = \emptyset$ هیچ عددی نداریم که از ۴ بزرگتر و ۳ کمتر باشد

