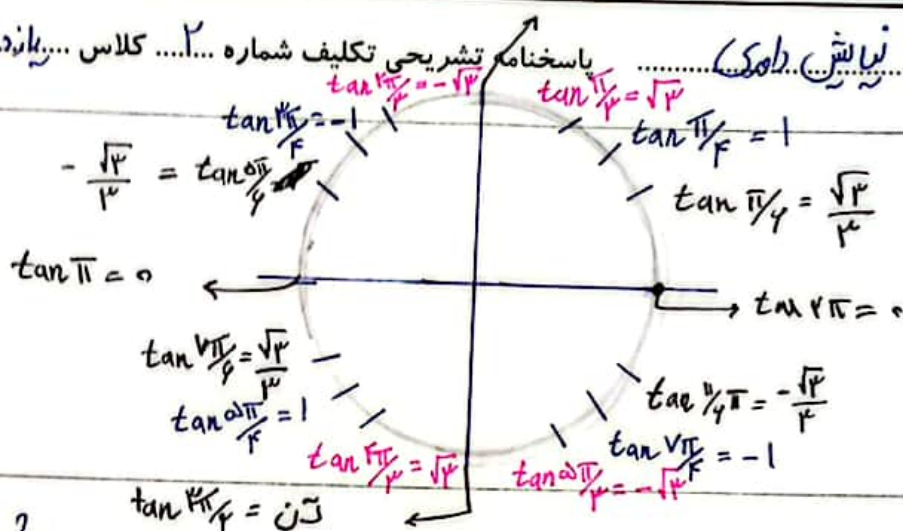


$$\tan 90^\circ = \infty$$

نام و نام خانوادگی ..... نیا نش (دوست) ..... پاسخنامه ..... تشریحی تکلیف شماره ۲ ..... کلاس ..... کارنامه ..... B



$$\left. \begin{array}{l} \sin \frac{\pi}{4} = \frac{1}{\sqrt{2}} \\ \cos \pi = -1 \\ \tan \frac{3\pi}{4} = -1 \end{array} \right\} \rightarrow \frac{1}{\sqrt{2}} - 1 + 2(-1) = -\frac{3}{\sqrt{2}} + \frac{1}{\sqrt{2}} = -\frac{2}{\sqrt{2}} = -\sqrt{2} \quad (\text{الف})$$

$$\left. \begin{array}{l} \sin \frac{5\pi}{4} = -\frac{\sqrt{2}}{2} \\ \cos \frac{3\pi}{4} = -\frac{\sqrt{2}}{2} \end{array} \right\} \rightarrow \left( -\frac{\sqrt{2}}{2} \right) + \frac{\sqrt{2}}{2} - 2 \left( -\frac{\sqrt{2}}{2} \right) = \frac{\sqrt{2} + \sqrt{2} + 2\sqrt{2}}{2} = \frac{4\sqrt{2}}{2} = 2\sqrt{2} \quad (\text{ب})$$

$$\left. \begin{array}{l} \cot \frac{3\pi}{4} = -\frac{\sqrt{2}}{2} \\ \tan \frac{5\pi}{4} = \frac{\sqrt{2}}{2} \end{array} \right\} \rightarrow \frac{-\sqrt{2}}{2} + \frac{\sqrt{2}}{2} - 2 \left( -\frac{\sqrt{2}}{2} \right) = \frac{-\sqrt{2} + \sqrt{2} + 2\sqrt{2}}{2} = \frac{2\sqrt{2}}{2} = \sqrt{2} \quad (\text{ج})$$

$$\cos \frac{\pi}{4} = \frac{1}{\sqrt{2}} \rightarrow \frac{1}{\sqrt{2}} \rightarrow \sin \left( \frac{\pi}{4} \right) = \frac{1}{\sqrt{2}} \rightarrow \cos(0^\circ) = 1 \rightarrow 1 + 1 = 2 \quad (\text{د})$$

در هر ۲ ضابطه باید  $a$  مقادیر یکسانی باشد  $\Rightarrow a^2 + 2a = 2a + a + 2 \Rightarrow a^2 + a + 2 = 0 \Rightarrow (a+2)(a-1) = 0$

$x^2 + 2x \quad x \geq 1$

$2x + 2 \quad x \leq 1 \quad f(1) = 1 + 2 = 3$

$\leftarrow \begin{cases} a = -2 \\ a = 1 \end{cases} \rightarrow -2 \notin a \rightarrow a > 0$

$|x+1| \geq 2 \rightarrow x+1 \geq 2 \vee x+1 \leq -2 \rightarrow x \geq 1 \vee x \leq -3$

$x^2 - b \quad x \leq -3$

$a + 2x \quad -3 \leq x \leq -1$

$x^2 - b \quad x \geq 1$

بازنویسی تابع چند ضابطه‌ای:

$x = -3 \rightarrow 11 - b = a - 2 \rightarrow a + b = 13$

$x^2(x-2) \neq 0 \rightarrow x \neq 0 \text{ و } 2$  (الف)

$D_f = \mathbb{R} - \{0, 2\}$

$x^2 + 2x^2 + x + 2 \mid x + 2$  (ب)

$x^2 + 2x^2 + x + 2 = (x+2)(x^2 + x + 1) + 0$

$(x+2)(x^2 + x + 1) \neq 0$

$x \neq -2 \rightarrow D_f = \mathbb{R} - \{-2\}$

$$\left. \begin{array}{l} x^r - 1 \gamma_{1,0} \rightarrow x^r \gamma_{1,1} \rightarrow x \gamma_{1,1} \leq x \leq -1 \\ x - 1 \gamma_{1,0} \rightarrow x \gamma_{1,1} \end{array} \right\} \wedge \rightarrow D_f = [r, +\infty) \text{ (الف)}$$

$$\left. \begin{aligned} 4 - 3x_1 &\rightarrow 4 \times 3x_1 & 2 \times 3x_1 \\ 4x_1 - 3 &\rightarrow x_1 \neq 1/2 \end{aligned} \right\} A \rightarrow D_f = (1/2, 2]$$
 چون نوی وخرجه  $\rightarrow$  مساوی  $\rightarrow$  این نوی باشد

$b - 3m\gamma, 0 \quad b\gamma, 3\gamma \rightarrow \left. \begin{array}{l} b/4, 1/4 \\ \gamma, a/4 \end{array} \right\} \rightarrow \text{چون دایره‌ای من کمر}$   
 $4\gamma - a\gamma, 0 \quad 4\gamma\gamma, a$   
 $b_f = 92 \left\{ \begin{array}{l} \text{عضوی هست پس} \end{array} \right.$   
 $\frac{b}{4} = \frac{a}{4} = 2$   
 $\hookrightarrow \left. \begin{array}{l} b=4 \\ a=12 \end{array} \right\} \quad b/a = \frac{4}{12} \sim 1/3$

$$\frac{(x-3)(x+2)}{(x^2-4)(x^2-5)} \geq 0 \Rightarrow \frac{(x-3)(x+2)}{(x-3)(x+3)(x-2)(x+2)} \geq 0$$

الف) ضعيف

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

ب) ضرایب برابر صفر ← یک ایشه  
جمع صورت

یکی از ایشه های فخرج  $x+1 \leftarrow x^2+x+4$

عوارضه مثبت → عوارضه مثبت

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

الف)  $r[x] - f \neq 0 \quad [x] \geq r \rightarrow D_f = [r, +\infty)$

✓)  $r[n] - \delta_{n0} [n] \gamma \frac{\partial}{\partial \gamma} \rightarrow D_f = [\gamma, +\infty)$

الف)  $\frac{x+1}{|x-1|} \geq 0 \rightarrow x+1 \geq 0 \quad x \geq -1$   
 $\frac{x+1}{|x-1|} \leq 0 \rightarrow x-1 \neq 0 \rightarrow x \neq 1$   
 $\rightarrow D_f = [-1, 1) \cup (1, \infty)$

$$\left. \begin{array}{l} \cup) [x] - F\% \cdot [x] \geq F \rightarrow [F, +\infty) \\ \cap) x - [x] \geq r \cdot [x] \rightarrow (-\infty, r] \end{array} \right\} \cap \rightarrow D_f = \emptyset$$