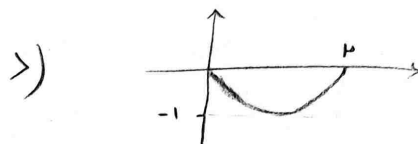
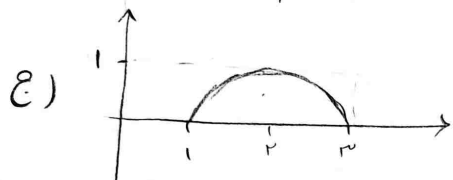
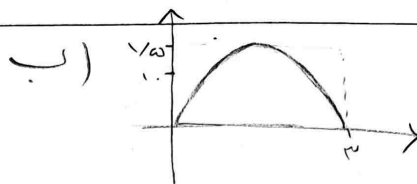
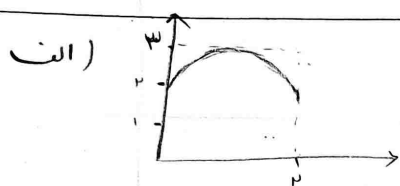


نام و نام خانوادگی (بیا با کلاس) پاسخنامه تشریحی تکلیف شماره ω کلاس دفتر ۸۵



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الف) $x^2 - \omega x + 6 > 0 \rightarrow (x-2)(x-3) > 0$

$\frac{2}{+} \frac{3}{-} \frac{\omega}{+} \rightarrow (3, +\infty) \cup (-\infty, 2)$

ب) $x^2 - 6x + \omega < 0 \rightarrow (x-1)(x-\omega) < 0$

$\frac{1}{+} \frac{\omega}{-} \frac{\omega}{+} \rightarrow (1, \omega)$

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ج) $x^2 + 6x + \omega \geq 0 \rightarrow (x+1)(x+\omega) \geq 0$

$\frac{-\omega}{+} \frac{-1}{-} \frac{\omega}{+} \rightarrow [-1, +\infty) \cup (-\infty, -\omega]$

د) $x^2 - 5x + 6 \leq 0 \rightarrow (x-1)(x-6) \leq 0$

$\frac{1}{+} \frac{6}{-} \frac{6}{+} \rightarrow [1, 6]$

الف) $\frac{(x-1)(x-2)}{(x-\omega)} < 0$

$\frac{1}{-} \frac{2}{+} \frac{\omega}{-} \frac{\omega}{+} \rightarrow (2, \omega) \cup (-\infty, 1)$

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ب) $\frac{(x+1)(x-1)}{(x-1)(x-\omega)} \geq 0 \rightarrow \frac{x+1}{x-\omega} \geq 0$

$\frac{-1}{+} \frac{\omega}{-} \frac{\omega}{+} \rightarrow (\omega, +\infty) \cup (-\infty, -1]$

الف) $\frac{(x-1)(x^2+x+1)}{x(x+1)(x-1)} \geq 0 \rightarrow \begin{cases} x+1=0 \rightarrow x=-1 \\ x \geq 0 \end{cases}$

$\frac{-1}{+} \frac{0}{-} \frac{0}{+} \rightarrow (0, +\infty) \cup (-\infty, -1)$

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ب) $\frac{(x-4)(x+4)}{(x-1)(x-4)} \geq 0 \rightarrow \frac{x+4}{x-1} \geq 0$

$\frac{-4}{+} \frac{1}{-} \frac{1}{+} \rightarrow (1, +\infty) \cup (-\infty, -4]$

الف) $4-x \geq 0 \rightarrow x \leq 4$, $4-\sqrt{4-x} \geq 0 \rightarrow \sqrt{4-x} \leq 4 \rightarrow x \geq 0$

$D_f = [0, 4]$

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ب) $x-4 \geq 0 \rightarrow x \geq 4$, $4-\sqrt{x-4} \geq 0 \rightarrow \sqrt{x-4} \leq 4 \rightarrow x \leq 20$

$D_f = [4, 20]$

$$\text{الف) } f - 2n^2 \geq 0 \rightarrow 2n^2 \leq f \rightarrow n^2 \leq \frac{f}{2} \rightarrow -\sqrt{\frac{f}{2}} \leq n \leq \sqrt{\frac{f}{2}}$$

$$Df = [-\sqrt{\frac{f}{2}}, \sqrt{\frac{f}{2}}]$$

$$\text{ب) } 3|n| - 9 \geq 0 \rightarrow 3|n| \geq 9 \rightarrow |n| \geq 3 \rightarrow \begin{cases} n \geq 3 \\ n \leq -3 \end{cases}$$

$$Df = [3, +\infty) \cup (-\infty, -3]$$

$$\text{الف) } |n| \neq 3 \rightarrow n \neq \pm 3 \Rightarrow Df = \mathbb{R} - \{\pm 3\}$$

$$\text{ب) } \begin{cases} n \geq 0 \\ \sqrt{n} \neq 3 \rightarrow n \neq 9 \end{cases} \xrightarrow{n} Df = [0, +\infty) - \{9\}$$

$$\text{الف) } 2 \cos n - 1 \neq 0 \rightarrow \cos n \neq \frac{1}{2} \rightarrow Df = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3} \right\}$$

$$\text{ب) } 2 \sin n + 1 \neq 0 \rightarrow \sin n \neq -\frac{1}{2} \rightarrow Df = \mathbb{R} - \left\{ 2k\pi + \frac{7\pi}{6}, 2k\pi + \frac{11\pi}{6} \right\}$$

$$\text{ج) } \begin{cases} \cot n - 1 \neq 0 \rightarrow \cot n \neq 1 \rightarrow n \neq k\pi + \frac{\pi}{4} \\ \sin n \neq 0 \rightarrow n \neq k\pi \end{cases} \Rightarrow Df = \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{4} \right\}$$

$$\text{د) } f \sin^2 n - 3 \neq 0 \rightarrow \sin^2 n \neq \frac{3}{f} \rightarrow \sin n \neq \pm \frac{\sqrt{3}}{\sqrt{f}} \rightarrow Df = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{\sqrt{f}} \right\}$$

$$2|n-1| - \frac{1}{f} > 0 \rightarrow |n-1| > \frac{1}{f} \rightarrow \begin{cases} n-1 > \frac{1}{f} \rightarrow n > \frac{f+1}{f} \\ n-1 < -\frac{1}{f} \rightarrow n < \frac{f-1}{f} \end{cases}$$

$$Df = \left(\frac{f+1}{f}, +\infty \right) \cup \left(-\infty, \frac{f-1}{f} \right)$$

$$\text{الف) } f - 2|n| \geq 0 \rightarrow 2|n| \leq f \rightarrow |n| \leq \frac{f}{2} \Rightarrow -\frac{f}{2} \leq n \leq \frac{f}{2}$$

$$Df = [-\frac{f}{2}, \frac{f}{2}]$$

$$\text{ب) } |n| \neq 0 \rightarrow n \neq 0 \rightarrow \frac{|n|}{|n|} \geq 0 \rightarrow \frac{|n|}{|n|} > 0 \Rightarrow Df = \mathbb{R} - \{0\}$$