

1) $(x-1)(x-3)(x-5) \neq 0 \Rightarrow D_f = \mathbb{R} - \{1, 3, 5\}$ (1)

2) $(x+1)(x^2-5x-6) \neq 0 \Rightarrow D_f = \mathbb{R} - \{-1, -2, 3, 6\}$ (2)

3) $x\sqrt{x-2} \neq 0 \Rightarrow x \neq \sqrt{x-2} \Rightarrow x \neq 1 \Rightarrow D_f = (-\infty, 1) \cup (1, \infty)$ (3)

4) $x - \sqrt{x-2} \neq 0 \Rightarrow x \neq \sqrt{x-2} \Rightarrow \begin{cases} x - \sqrt{x-2} = (x-1)(x-2) \\ x + \sqrt{x-2} = x \end{cases} \Rightarrow D_f = [\frac{2}{3}, \infty) - \{1, 2\}$ (4)

5) $\cos x \neq 1 \Rightarrow \cos x \neq \frac{1}{1} \Rightarrow D_f = \mathbb{R} - \{k\pi + \frac{\pi}{2} | k \in \mathbb{Z}\}$ (5)

6) $\sin x \neq -1 \Rightarrow \sin x \neq -\frac{1}{1} \Rightarrow D_f = \mathbb{R} - \{k\pi + \frac{3\pi}{2} | k \in \mathbb{Z}\}$ (6)

7) $\cot x \neq 1 \Rightarrow D_f = \mathbb{R} - \{k\pi + \frac{\pi}{4}, k\pi + \frac{5\pi}{4} | k \in \mathbb{Z}\}$ (7)

8) $\sin^2 x \neq \frac{1}{4} \Rightarrow \sin x \neq \pm \frac{1}{2} \Rightarrow D_f = \mathbb{R} - \{k\pi \pm \frac{\pi}{6} | k \in \mathbb{Z}\}$ (8)

9) $(x-2)(x-3) > 0 \Rightarrow D_f = \mathbb{R} - [2, 3]$ (9)

10) $(x-1)(x-4) < 0 \Rightarrow D_f = (1, 4)$ (10)

11) $(x+1)(x+6) \geq 0 \Rightarrow D_f = \mathbb{R} - (-6, -1)$ (11)

12) $(x-1)(x-4) \leq 0 \Rightarrow D_f = [1, 4]$ (12)

13) $(x-1)(x-2) < 0 \Rightarrow D_f = (1, 2)$ (13)

14) $(x-1)(x+1) \geq 0 \Rightarrow D_f = \mathbb{R} - [-1, 1] - \{1\}$ (14)

15) $(x-1)(x-2) \geq 0 \Rightarrow D_f = \mathbb{R} - [-1, 2] - \{1\}$ (15)

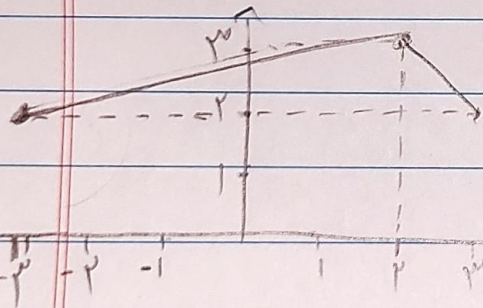
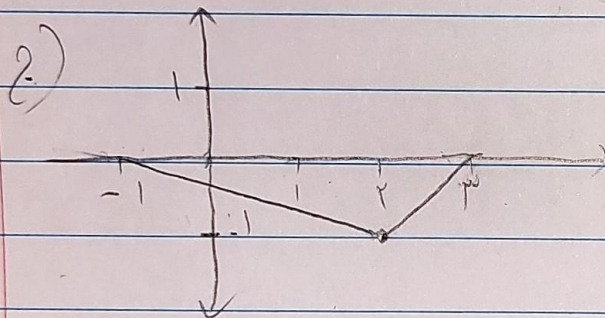
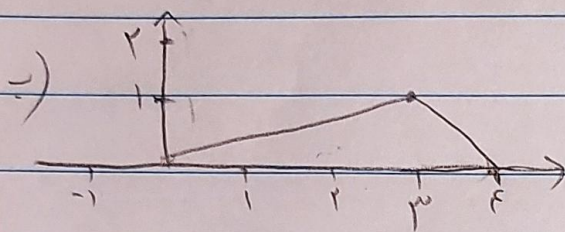
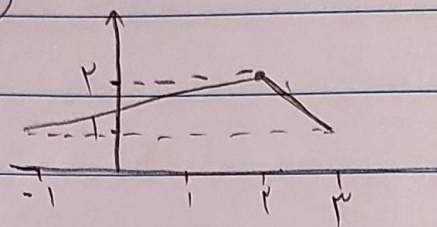
آردی شنگ

$$w_2 = 1$$

$$\frac{x \cdot f(x)}{f(x)} \geq 0 \quad \frac{-2}{-1} + \frac{-1}{0} + \frac{2}{1} + \frac{3}{2} \quad D_f(-\infty, -1) \cup [-1, 2) \cup [2, +\infty) \quad (4)$$

الف)

(1.)



(2)