

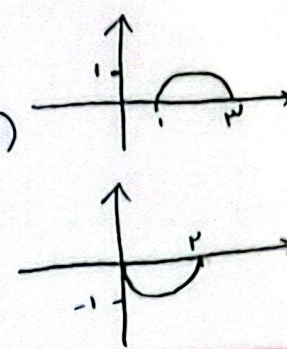
14

تطبيق سار

بارك صا دق

2) $f(x-1)$

3) $-f(x)$



(2) ✓

ا) $x^2 - 5x + 4 > 0$. $x^2 - 5x + 4 > 0 \rightarrow x(x-5) > 4$ $(-\infty -1) \cup (1 + \infty)$
 $(x-2)(x-3) > 0$ $\frac{2}{+} \frac{3}{-} \frac{+}{+}$ $x(x-5) - 4 > 0$ $\frac{-1}{+} \frac{6}{-} \frac{+}{+}$
 $(-\infty -2) \cup (3 + \infty)$

ب) $x^2 - 6x + 5 < 0$. $x(x-6) + 5 < 0$. $\frac{1}{+} \frac{6}{-} \frac{5}{+}$ (1 5)
 $+5 < +1$

ج) $x^2 + 4x + 5 \geq 0$. $x(x+4) + 5 \geq 0$. $\frac{-5}{+} \frac{-1}{-} \frac{+}{+}$ $(-\infty -5] \cup [-1 + \infty)$ 1, 5

د) $x^2 - 7x + 6 \leq 0$. $x(x-7) + 6 \leq 0$. $\frac{1}{+} \frac{7}{-} \frac{6}{+}$ [1 6]

$\frac{x^2 - 3x + 2}{x - 5} < 0$. $\Rightarrow 0 = x(x-3) + 2 < 0$. $\frac{1}{-} \frac{3}{+} \frac{2}{-}$
 ا) 0 $\rightarrow x - 5 > 0$. $x > 5$. $(-\infty 1) \cup (2 \infty)$

ب) $\frac{x^2 - 1}{x^2 - 2x + 5} \geq 0$. $x^2 - 1 = (x-1)(x+1)$. $\frac{-1}{+} \frac{1}{-} \frac{5}{+}$ $(-\infty -1] \cup (1 + \infty)$

ا) $y = \sqrt{\frac{x^2 - 1}{x^2 - x}}$. $x^2 - 1 \geq 0 \rightarrow x^2 - 1 = (x-1)(x+1)$. $x^2 - x \neq 0 \rightarrow x(x-1) \neq 0$. $\frac{-1}{+} \frac{1}{-} \frac{1}{+}$ $D_f = (-\infty -1) \cup (1 + \infty)$ - f13

ب) $y = \sqrt{\frac{x^2 - 14}{x^2 - 5x + 4}}$. $x^2 - 14 = (x-\sqrt{14})(x+\sqrt{14})$. $x^2 - 5x + 4 = (x-4)(x-1)$. $\frac{-4}{+} \frac{1}{-} \frac{1}{+}$ $D_f = (-\infty -4] \cup (1 + \infty)$ - f14

الف) $y = \sqrt{4-x} \rightarrow \sqrt{4-x} \geq 0$ $4-x \geq 0$
 $x \leq 4 \rightarrow (-\infty, 4]$ $x \geq 4 \rightarrow [4, \infty)$
 $\sqrt{4-x} \leq 4 \rightarrow 4-x \leq 16 \rightarrow x \geq -12$ $x \leq 4 \rightarrow x \leq 11$
جواب: $[2, 4]$ $[2, 11]$

ب) $y = \sqrt{4-x} \rightarrow \sqrt{4-x} \geq 0$ $4-x \geq 0$
 $x \leq 4 \rightarrow [2, +\infty)$ $x \geq 2 \rightarrow [2, +\infty)$

الف) $y = \sqrt{4-2x^2}$ $4-2x^2 \geq 0$
 $2x^2 \leq 4 \rightarrow x^2 \leq 2 \rightarrow -\sqrt{2} \leq x \leq \sqrt{2}$
جواب: $[-\sqrt{2}, \sqrt{2}]$

ب) $y = \sqrt{2|x|-4}$ $2|x|-4 \geq 0$
 $|x| \geq 2 \rightarrow (-\infty, -2] \cup [2, +\infty)$

الف) $y = \sqrt{\frac{|x|+1}{|x|-3}}$ $|x|-3 \neq 0$ $|x| \neq 3 \Rightarrow D_f = \mathbb{R} - \{3\}$

ب) $y = \sqrt{\frac{\sqrt{x+1}}{\sqrt{x}-3}}$ $\sqrt{x}-3 \neq 0$ $x \neq 9$ $D_f = \mathbb{R} - \{9\}$

الف) $y = \frac{\sin x}{2\cos x - 1}$ $2\cos x - 1 \neq 0$ $\cos x \neq \frac{1}{2}$ $D_f = \mathbb{R} - \{2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3}\}$

ب) $y = \frac{\cos x + 1}{2\sin x + 1}$ $2\sin x + 1 \neq 0$ $\sin x \neq -\frac{1}{2}$ $D_f = \mathbb{R} - \{2k\pi + \frac{7\pi}{6}, 2k\pi + \frac{11\pi}{6}\}$

ج) $y = \frac{\tan x + 2}{\cot x - 1}$ $\cos x \neq 0$ $\sin x \neq 0$ $\cot x \neq 1$ $D_f = \mathbb{R} - \{k\pi + \frac{\pi}{4}, k\pi + \frac{5\pi}{4}\}$

د) $y = \frac{\sin x - 1}{2\sin^2 x - 3}$ $2\sin^2 x - 3 \neq 0$ $\sin^2 x \neq \frac{3}{2}$ $D_f = \mathbb{R} - \{2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2}\}$

$y = \frac{1}{2|x-2| - \frac{1}{2}}$ $2|x-2| - \frac{1}{2} \neq 0$ $|x-2| \neq \frac{1}{4}$ $x \neq 2 \pm \frac{1}{4}$ $D_f = (-\infty, 2 - \frac{1}{4}) \cup (2 + \frac{1}{4}, +\infty)$

الف) $y = \sqrt{4-2|x|}$ $4-2|x| \geq 0$ $|x| \leq 2$ $D_f = [-2, 2]$

ب) $y = \sqrt{\frac{|x|}{|x|+1}}$ $|x| \geq 0$ $|x|+1 \neq 0$ $D_f = \mathbb{R}$