

(الف) $(x-2)(x-3) > 0$

2 3

$\pm \phi - \phi +$

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

(ج) $(x+1)(x+5) > 0$

-5 -1

$\pm \phi - \phi +$

$(-\infty, -5] \cup [-1, +\infty)$

(ب) $(x-1)(x-5) < 0$

1 5

$\pm \phi - \phi +$

$(1, 5)$

(د) $(x-1)(x-6) < 0$

1 6

$\pm \phi - \phi +$

$[1, 6]$

12

(الف) $(x-1)(x-2) < 0$

1 2

$\pm \phi - \phi +$

$(-\infty, 1) \cup (2, 5)$

(ب) $(x-1)(x+1) > 0$

-1 1 5

$\pm \phi - \phi +$

$(-\infty, -1] \cup [1, 5) \cup (5, +\infty)$

15

(الف) $x^3 - x > 0$

-1 0 1

$\pm \phi + \phi - \phi +$

18 $x(x^2-1) > 0$

$x^3 - 1 > 0 \Rightarrow (\infty, -1) \cup (-1, 0) \cup (1, +\infty) \Rightarrow x^3 > 1 \Rightarrow x > 1$

(ب) $(x-1)(x-4) > 0$

-4 1 4

$\pm \phi - \phi +$

برابر و منفرد

$(x-4)(x+4) > 0$

$(-\infty, -4] \cup (4, +\infty)$

4 -4

د

Subject: _____

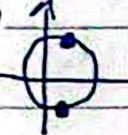
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الف) $2-x \geq 0$ $2 \geq x$ $4-\sqrt{2-x} \geq 0$ $4 \geq \sqrt{2-x}$ $16 \geq 2-x$ $x \geq -14$ $3-x \geq 0$ $x \geq 3$ $9 \geq \sqrt{x-2}$ $9 \geq x-2$ $x \leq 11$ (A)

3. $D_f = [-14, 2]$ $D_f = [11, 2]$

الف) $|x|-3 \neq 0$ $|x| \neq 3$ $x \neq \pm 3$ $D_f = R - \{-3, +3\}$ $ب) \sqrt{x}-3 \neq 0$ $\sqrt{x} \neq 3$ $x \neq 9$ $x \geq 0$ $D_f = [0, +\infty) - \{9\}$ (V)

الف) $2 \cos x - 1 \neq 0$ $\cos x \neq \frac{1}{2}$ 9  $D_f = R - \{2k\pi \pm \frac{\pi}{3}\}$ $ج) \frac{\cos x}{\sin x} \neq 1$ $K\pi + \frac{\pi}{4}, k$ $\sin x \neq 0$ $K\pi$ $D_f = R - \{K\pi, K\pi + \frac{\pi}{4}\}$ (A)

ب) $2 \sin x \neq -1$ $\sin x \neq -\frac{1}{2}$ 12  $D_f = R - \{2k\pi - \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}\}$ $ج) \sqrt{\sin^2 x} \neq 1$ $\sin^2 x \neq 1$ $\sin x \neq \pm 1$ $D_f = R - \{2k\pi, 2k\pi + \pi\}$

15. $2|x-2| - \frac{1}{4} > 0$ $|x-2| > \frac{1}{8}$ $x-2 < -\frac{1}{8}$ $x < \frac{15}{8}$ (9)

$2|x-2| > \frac{1}{4}$ $|x-2| > \frac{1}{8}$ $D_f = (-\infty, \frac{15}{8}] \cup [\frac{9}{8}, +\infty)$

18. $x-2 > \frac{1}{8}$ $x > \frac{9}{8}$

الف) $4-2|x| \geq 0$ $4 \geq 2|x|$ $2 \geq |x|$ $2 \geq x$ $-2 \leq x$ $-2 \leq x \leq 2$ $ب) \frac{|x|}{|x|} \rightarrow 0$ $x \neq 0$ (10)

21. $D_f = [-2, 2]$ $(-\infty, 0) \cup (0, +\infty)$

$-2 \leq x \leq 2$

بسم الله الرحمن الرحيم