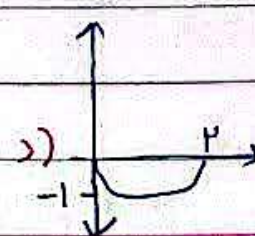
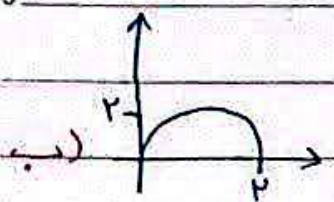
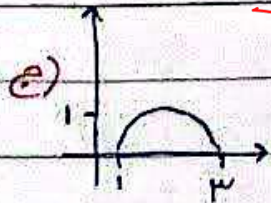
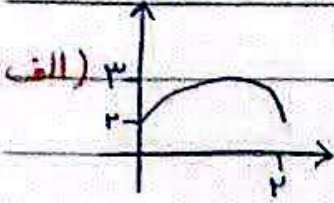


14, 15



(الف) $(x-2)(x-3) > 0$
 $\begin{array}{c|c|c|c|} \hline & 2 & 3 & \\ \hline & + & - & + \\ \hline \end{array}$
 $(-\infty, 2) \cup (3, +\infty)$

(ج) $(x+1)(x+5) > 0$
 $\begin{array}{c|c|c|c|} \hline & -1 & -5 & \\ \hline & + & - & + \\ \hline \end{array}$
 $(-\infty, -5] \cup [-1, +\infty)$

(ب) $(x-1)(x-5) < 0$
 $\begin{array}{c|c|c|c|} \hline & 1 & 5 & \\ \hline & + & - & + \\ \hline \end{array}$
 $(1, 5)$

(د) $(x-1)(x-6) < 0$
 $\begin{array}{c|c|c|c|} \hline & 1 & 6 & \\ \hline & + & - & + \\ \hline \end{array}$
 $[1, 6]$

(الف) $(x-1)(x-2) < 0$
 $\begin{array}{c|c|c|c|} \hline & 1 & 2 & \\ \hline & + & - & + \\ \hline \end{array}$
 $(-\infty, 1) \cup (2, +\infty)$

(ب) $(x-1)(x+1) > 0$
 $\begin{array}{c|c|c|c|} \hline & -1 & 1 & \\ \hline & + & - & + \\ \hline \end{array}$
 $(-\infty, -1] \cup [1, +\infty)$

15

(الف) $x^3 - x > 0$
 $\begin{array}{c|c|c|c|c|} \hline & -1 & 0 & 1 & \\ \hline & + & - & + & + \\ \hline \end{array}$

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

(ب) $(x-1)(x-4) > 0$
 $\begin{array}{c|c|c|c|c|} \hline & -1 & 1 & 4 & \\ \hline & + & - & + & + \\ \hline \end{array}$

$(x-4)(x+4) > 0 \Rightarrow (\infty, -4] \cup (4, +\infty)$



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الف) $2-x \geq 0$ $2-\sqrt{2-x} \geq 0$ ب) $x-2 \geq 0$ $3-\sqrt{x-2} \geq 0$ (A)

$2 \geq x$ $2 \geq \sqrt{2-x}$ $x \geq 2$ $3 \geq \sqrt{x-2}$

3. $D_f = [-1, 2]$ $1 \geq 2-x$ $x \geq -1$ $D_f = [1, 2]$ $11 \geq x$

$1, \sqrt{0}$ $[2, 11]$

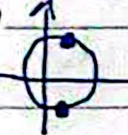
الف) $|x|-3 \neq 0$ ب) $\sqrt{x}-3 \neq 0$ (V)

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

(2) ✓

الف) $2 \cos x - 1 \neq 0$ ج) $\frac{\cos x}{\sin x} \neq 1$ $k\pi + \frac{\pi}{4}, k$ (A)

$\cos x \neq \frac{1}{2}$ $\sin x \neq 0$ $k\pi$ $C. \sin \neq 0$

9.  $D_f = R - \{2k\pi \pm \frac{\pi}{3}\}$ $D_f = R - \{\frac{k\pi}{2}, k\pi + \frac{\pi}{4}\}$

ب) $2 \sin x \neq -1$ د) $2 \sin^2 x \neq 3$

$\sin x \neq -\frac{1}{2}$ $\sin^2 x \neq \frac{3}{2} \rightarrow \sin x \neq \pm \frac{\sqrt{3}}{2}$

12.  $D_f = R - \{2k\pi - \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}\}$ $D_f = \{2k\pi \pm \frac{\pi}{3}, 2k\pi \pm \frac{2\pi}{3}\}$

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

$2|x-2| > \frac{1}{4}$ $x < \frac{9}{4}$

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

18. $x-2 > \frac{1}{8}$ $x > \frac{9}{4}$

(2) ✓

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

21. $2 \geq 2|x|$ $1 \geq |x|$ $-1 \leq x \leq 1$ $D_f = [-2, 2]$ $(-\infty, 0) \cup (0, +\infty)$

$2 \geq x$ $-2 \leq x$ $-2 \leq x \leq 2$

(2) ✓