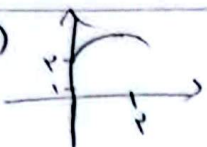
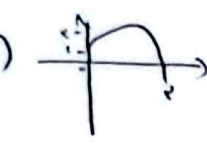
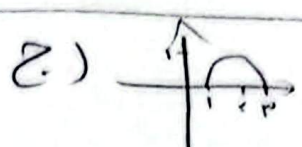
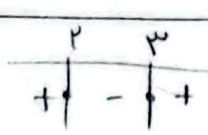
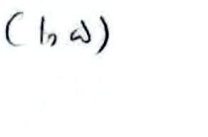
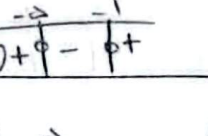
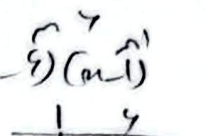
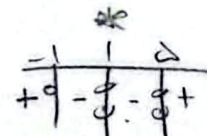
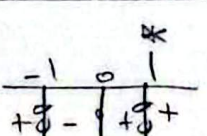
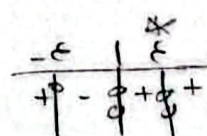


الف)  ب) 	ج)  د) 	۱
الف) $(x-2)(x-3)$  $(-\infty, 2) \cup (3, +\infty)$ ب) $(x-5)(x-1)$ $(1, 5)$  ج) $(x+5)(x+1)$ $(-\infty, -5] \cup [-1, +\infty)$  د) $(x-2)(x-1)$ $(-\infty, 1) \cup (2, 5)$ 	د) $(x-6)(x-1)$ $[1, 6]$ 	۲
ب) $\frac{(x-1)(x+1)}{(x-5)(x-1)}$  $(-\infty, -1] \cup (5, +\infty)$		۳
الف) $\frac{(x-1)(x^2+x+1)}{x(x^2-1)}$  $(-\infty, -1) \cup (0, 1) \cup (1, +\infty)$		۴
ب) $\frac{(x-5)(x+5)}{(x-1)(x-5)}$  $(-\infty, -5] \cup (1, 5) \cup (5, +\infty)$		
الف) $\sqrt{x-2} \geq 0$ $x-2 \geq 0$ $x \geq 2$ $x - \sqrt{x-2} \geq 0$ $\sqrt{x-2} \leq x$ $x \leq \frac{1}{1-x}$ $x > -1$ $-1 \leq x \leq 2$ $[-1, 2]$	ب) $\sqrt{x-2} \geq 0$ $x-2 \geq 0$ $x \geq 2$ $2 - \sqrt{x-2} \geq 0$ $\sqrt{x-2} \leq 2$ $x-2 \leq 4$ $x \leq 6$ $[2, 6]$	۵

الف) $\sqrt{x^2 - 4} \geq 0$

$x^2 - 4 \geq 0$

$x^2 \geq 4 \quad \sqrt{x^2} \geq \sqrt{4} \quad [-2, 2]$

6

ب) $\sqrt{|x| - 9}$

$|x| - 9 \geq 0 \quad |x| \geq 9 \quad |x| \geq 3 \quad x \leq -3 \text{ or } x \geq 3 \quad (-\infty, -3] \cup [3, +\infty)$

الف) $|x| - 3 \neq 0 \quad R = [-3, 3]$

$|x| \neq 3 \quad x \neq \pm 3$

7

ب) $\sqrt{x} - 3 \neq 0$

$\sqrt{x} \neq 3 \quad x \neq 9 \quad [0, 9) \cup (9, +\infty)$

الف)

$\sqrt{\cos x} - 1 \neq 0$

$\cos x \neq \frac{1}{4}$

$R = \{x \mid x \neq \pm \frac{\pi}{2}\}$

ب) $\sqrt{\sin x} + 1 \neq 0$

$\sin x \neq -\frac{1}{4}$

$R = \{x \mid x \neq \frac{3\pi}{2}, x \neq \frac{7\pi}{2}\}$

ج) $\cot x - 1 \neq 0 \quad \cot x \neq 1$

$\frac{\cos x}{\sin x} \neq 1 \quad \sin x \neq 0$

$R = \{x \mid x \neq k\pi, x \neq k\pi + \frac{\pi}{2}\}$

د) $\sin^2 x - \frac{1}{4} \neq 0$

$\sin^2 x \neq \frac{1}{4} \quad R = \{x \mid x \neq k\pi + \frac{\pi}{6}, x \neq k\pi + \frac{5\pi}{6}\}$

$|x - 2| - \frac{1}{4} > 0$

$|x - 2| > \frac{1}{4} \quad x < \frac{7}{4} \quad x > \frac{9}{4}$

$(-\infty, \frac{7}{4}) \cup (\frac{9}{4}, +\infty)$

9

الف)

$x - 2|x| \geq 0$

$2|x| \leq x$

$|x| \leq \frac{x}{2}$

$-x \leq x \leq x$

$[-2, 2]$

ب) $\frac{|x|}{|x|}$

$|x| \neq 0$

$x \neq 0$

$(-\infty, 0) \cup (0, +\infty)$

10