

الف) $F(x+2)$	ب) $2F(x)$	ج) $F(x-1)$	د) $-f(x)$	۱
الف) $x^2 - 5x + 6 \geq 0$ $(x-2)(x-3) \geq 0$ $x-2 \quad x-3$ $2 \quad 3$ $+ \quad - \quad +$ $(-\infty, 2) \cup (3, +\infty)$	ب) $x^2 - 6x + 8 < 0$ $(x-2)(x-4) < 0$ $x-2 \quad x-4$ $2 \quad 4$ $+ \quad - \quad +$ $(2, 4)$ ✓	ج) $x^2 + 6x + 8 \geq 0$ $(x+2)(x+4) \geq 0$ $x+2 \quad x+4$ $-2 \quad -4$ $+ \quad - \quad +$ $(-\infty, -4] \cup [-2, +\infty)$	د) $x^2 - 7x + 6 \leq 0$ $(x-1)(x-6) \leq 0$ $x-1 \quad x-6$ $1 \quad 6$ $+ \quad - \quad +$ $[1, 6]$	۲
الف) $\frac{x^2 - 3x + 2}{x-5} < 0$ $(x-1)(x-2) < 0$ $x-1 \quad x-2 \quad x-5$ $1 \quad 2 \quad 5$ $- \quad + \quad - \quad +$ $(-\infty, 1) \cup (2, 5)$ ✓	ب) $\frac{x^2 - 1}{x^2 - 6x + 8} \geq 0$ $(x-1)(x+1) \geq 0$ $x-1 \quad x+1 \quad x-2 \quad x-4$ $-1 \quad 1 \quad 2 \quad 4$ $+ \quad - \quad - \quad +$ $(-\infty, -1] \cup (0, 1] \cup (2, 4) \cup (5, +\infty)$	۳		
الف) $\sqrt{\frac{x^2-1}{x^2-x}}$ $x^2-x \neq 0$ $\frac{x^2-1}{x^2-x} \geq 0$ $x \neq 0$ $x \neq 1$ $x \neq -1$ $\frac{x^2-1}{x^2-x} \geq 0$ $\frac{-1}{-1} \quad \frac{0}{0} \quad \frac{1}{1}$ $+ \quad - \quad +$ $(-\infty, -1) \cup (0, 1) \cup (1, +\infty)$ ✓	ب) $\sqrt{\frac{x^2-16}{x^2-8x+15}}$ $(x-1)(x-4) \geq 0$ $x \neq 1$ $x \neq 4$ $\frac{x^2-16}{x^2-8x+15} \geq 0$ $(x-4)(x+4) \geq 0$ $-4 \quad 1 \quad 4$ $+ \quad - \quad +$ $(-\infty, -4] \cup (1, 4) \cup (4, +\infty)$ ✓	۴		
الف) $\sqrt{4-x} - \sqrt{2-x} \geq 0$ $4-x \geq 0$ $2-x \geq 0$ $4-x \leq 16$ $2-x \leq 9$ $-x \leq 14$ $x \geq -14$ $16 \leq x \leq 2$ $[-14, 2]$	ب) $\sqrt{4-x} - \sqrt{x-2} \geq 0$ $4-x \geq 0$ $x-2 \geq 0$ $\sqrt{4-x} \leq \sqrt{x-2}$ $4-x \leq x-2$ $x \leq 3$ $2 \leq x \leq 3$ $[2, 3]$	۵		

الف) $y = \sqrt{r-2n^2}$ $r-2n^2 \geq 0$
 $2n^2 \leq r$ $n^2 \leq \frac{r}{2}$ $-\sqrt{\frac{r}{2}} \leq n \leq \sqrt{\frac{r}{2}}$
 $[-\sqrt{\frac{r}{2}}, \sqrt{\frac{r}{2}}]$

(2) ✓

ب) $y = \sqrt{r|n|-9}$ $r|n|-9 \geq 0$
 $r|n| \geq 9$ $|n| \geq \frac{9}{r}$
 $(-\infty, -\frac{9}{r}] \cup [\frac{9}{r}, +\infty)$

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الف) $y = \sqrt{\frac{|n|+1}{|n|-r}}$

$|n|-r \neq 0$
 $|n| \neq r$
 $n \neq \pm r$
 $D_f = R - \{\pm r\}$

(2) ✓

ب) $y = \sqrt{\frac{\sqrt{n}+1}{\sqrt{n}-r}}$ $n \geq 0$

$\sqrt{n}-r \neq 0$ $D_f = [0, +\infty) - \{r^2\}$
 $\sqrt{n} \neq r$
 $n \neq r^2$

الف) $y = \frac{\sin n}{r \cos n - 1}$

$r \cos n - 1 \neq 0$
 $r \cos n \neq 1$ $\cos n \neq \frac{1}{r}$
 $R - \{2k\pi \pm \frac{\pi}{r}\}$



ب) $y = \frac{\cos n+1}{r \sin n+1}$

$r \sin n+1 \neq 0$
 $r \sin n \neq -1$
 $\sin n \neq -\frac{1}{r}$
 $R - \{2k\pi + \frac{11\pi}{6}, 2k\pi + \frac{5\pi}{6}\}$



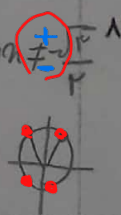
2) $y = \frac{\tan n+r}{\cot n-1}$

$\cot n-1 \neq 0$ $\cot n \neq 1$
 $\tan n \neq \frac{1}{r}$ $\cos n \neq 0$
 $R - \{k\pi + \frac{\pi}{r}, k\pi + \frac{\pi}{r}\}$



د) $y = \frac{\sin n+1}{r \sin n-r}$

$r \sin n-r \neq 0$
 $r \sin n \neq r$
 $\sin n \neq \frac{r}{r}$ $\sin n \neq 1$
 $R - \{2k\pi + \frac{\pi}{r}, 2k\pi + \frac{\pi}{r}\}$



$y = \frac{1}{\sqrt{r|n-r|-\frac{1}{r}}}$

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

ل.ب.د

$r|n-r|-\frac{1}{r} > 0$

$r|n-r| > \frac{1}{r}$

$n-r > \frac{1}{r}$

✓

$|n-r| > \frac{1}{r}$

$n-r > \frac{1}{r}$

$n > \frac{9}{r}$

$n-r < -\frac{1}{r} \rightarrow n < \frac{9}{r}$

الف) $y = \sqrt{r-2|n|}$ $r-2|n| \geq 0$

$2|n| \leq r$
 $|n| \leq \frac{r}{2}$

$D_f = (-\infty, -\frac{r}{2}] \cup [\frac{r}{2}, +\infty)$
 $[-\frac{r}{2}, \frac{r}{2}]$

ل.ب.د

ب) $y = \sqrt{\frac{|n|}{|n|}}$ $\frac{|n|}{|n|} \geq 0$

$|n| \neq 0$ $n \neq 0$

$D_f = R - \{0\}$

1.