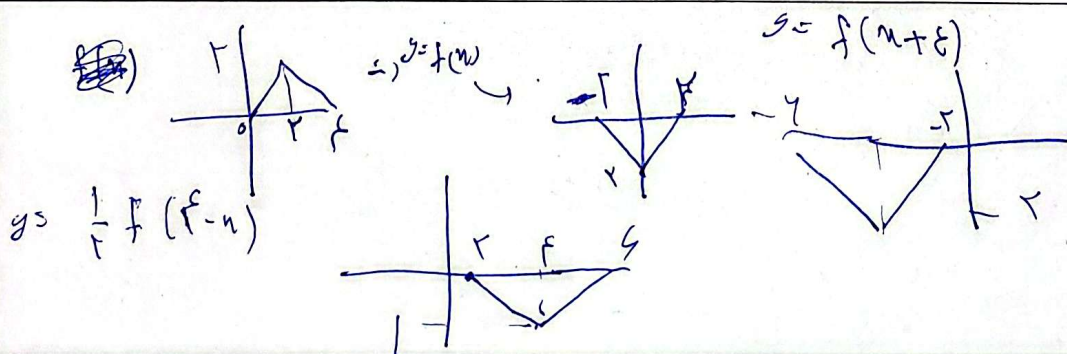


۱
 $f(n+1) < 2 \Rightarrow -2 < n+1 < 4$
 $\Rightarrow -\frac{1}{3}(n < \frac{4}{3}) \Rightarrow D_f = [-\frac{1}{3}, \frac{4}{3}]$
 $-2 < n < -1 \Rightarrow -2 < n+1 < -1 \Rightarrow D_f = [-1, -1]$

۲
 اگر تابع راست به یازمانی در
 مرتبه n به y به یازمانی در
 از همان نقطه از صفحه y به یازمانی در
 این قطع مرتبه
 $f(n) = n - 2 + \sqrt{n-4}$
 $n - 2 + \sqrt{n-4} = n \Rightarrow$
 $\sqrt{n-4} = 2 \Rightarrow n-4 = 4 \Rightarrow n = 8$
 $\Rightarrow n = 1 \Rightarrow y = 1 + 2 = 3$

۳
 $\frac{y(n)}{2} = 8(n+1) - 1$
 $\frac{2 \times (1 - (-\frac{1}{2}))}{2} = \frac{4}{2} = 2$
 $\Rightarrow -1 < n < 3$
 $-\frac{1}{2} < n < 1$

۴
 $\frac{n-a}{2} = 2 \Rightarrow n-a = 4 \Rightarrow n = 4+a$
 $A = \begin{pmatrix} 4+a \\ a-4 \end{pmatrix}$
 $n+a-1 = a-4$
 $a = 4$



$$r_{n-1} = 0 \Rightarrow r_n = 1 \Rightarrow n = 2$$

$$r_{n-1} = 1 \Rightarrow r_n = 2 \Rightarrow n = 1$$

$$r_{n-1} = -1 \Rightarrow r_n = 0 \Rightarrow n = 0$$

$$-(n+2)(r_{n-1}) > 0 \Rightarrow (n+2)(r_{n-1}) < 0$$

$$D_f = [-2, 0] \cup [1, 2]$$

	-2	0	1	2
-	+	+	+	+
-	-	+	-	+
+	-	+	-	+

$$g(x) = |2x + 2k - 2| - 2$$

مربع
مربع

$$|2x + 2k - 2| - 2 = |2x - 2| + 1$$

$$\Rightarrow |2k - 2| - 2 = 1$$

$$|2k - 2| = 3 \Rightarrow 2k - 2 = 3 \Rightarrow 2k = 5 \Rightarrow k = \frac{5}{2}$$

$$2k - 2 = -3 \Rightarrow 2k = -1 \Rightarrow k = -\frac{1}{2}$$

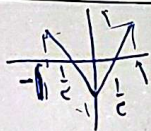
$$f(x) = -\frac{2x-1}{x+1} \Rightarrow f(x) = \frac{2x-1}{x+1}$$

$$\frac{2x-1}{x+1} + k = \frac{2x-1}{x+1}$$

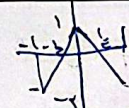
$$(2k-1)x + 1 + (-2k-1) = 0$$

$$2kx - 2k = 0 \Rightarrow k = 1 \Rightarrow k = 1$$

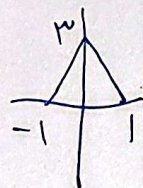
$$y = f(x) + 2$$



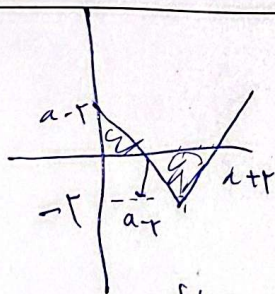
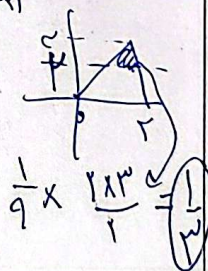
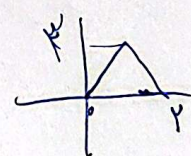
$$\Rightarrow y = f(x) + 2$$



$$\Rightarrow f(x)$$



$$\Rightarrow y = f(x+1)$$



$$\frac{(a-2)(a-2)}{2} + \frac{2x-1}{2} = \frac{2}{2}$$

$$(a-2)(a-2) = 2 \Rightarrow a^2 - 4a + 4 = 2 \Rightarrow a^2 - 4a + 2 = 0$$

$$f(x) = |x - \sqrt{2}| - 2$$

$$\Rightarrow f(x) = \left| \frac{1}{\sqrt{2}} - \sqrt{2} \right| - 2$$

$$a = \sqrt{2}$$

مربع

$$\left| \frac{1}{\sqrt{2}} - \sqrt{2} \right| - 2 = \frac{2\sqrt{2}}{2} - 2 \Rightarrow \left| \frac{1}{\sqrt{2}} - \sqrt{2} \right| = \sqrt{2} - 2$$