

۱	(۲) $\frac{ m +1}{ m -1} \geq 2 \Rightarrow m \geq \frac{1}{ m } + \frac{1}{ m } \Rightarrow m + \frac{1}{ m } \geq 2$ از (۱) $\frac{ m +1}{ m -1} \geq 2 \Rightarrow m \geq \frac{1}{ m } + \frac{1}{ m } \Rightarrow m + \frac{1}{ m } \geq 2$ از (۲) $\frac{ m +1}{ m -1} \geq 2 \Rightarrow m \geq \frac{1}{ m } + \frac{1}{ m } \Rightarrow m + \frac{1}{ m } \geq 2$ $R = (-\infty, -\frac{1}{2}] \cup [\frac{1}{2}, \infty)$
۲	(۲) $\frac{m^2 + 2m - 1}{m + 3} \geq 0 \Rightarrow m^2 + 2m - 1 \geq 0$ $\Delta = 4 + 4 = 8 \Rightarrow m = \frac{-2 \pm \sqrt{8}}{2} = -1 \pm \sqrt{2}$ $R = (-\infty, -1 - \sqrt{2}] \cup [-1 + \sqrt{2}, \infty)$
۳	(۲) $\frac{m^2 - m + 1}{m^2 - m + 1} \geq 0 \Rightarrow m^2 - m + 1 \geq 0$ $\Delta = 1 - 4 = -3 < 0$ $R = \mathbb{R}$
۴	(۲) $\frac{m^2 - m - 1}{m^2 - m - 1} \geq 0 \Rightarrow m^2 - m - 1 \geq 0$ $\Delta = 1 + 4 = 5 \Rightarrow m = \frac{1 \pm \sqrt{5}}{2}$ $R = (-\infty, \frac{1 - \sqrt{5}}{2}] \cup [\frac{1 + \sqrt{5}}{2}, \infty)$
۵	(۲) $\frac{m^2 - m + 1}{m^2 - m + 1} \geq 0 \Rightarrow m^2 - m + 1 \geq 0$ $\Delta = 1 - 4 = -3 < 0$ $R = \mathbb{R}$

الف) $x = x_n - r - x_{n-1} - r$ $n=1$ $x_{n-1} - r$ $n+1$ $R_f = [-\frac{1}{2}, \frac{1}{2}]$	$\rightarrow$ $x_n - r + x_{n+1} - r$ $R_f = [-\frac{1}{2}, \frac{1}{2}]$
$x_n - r - x_{n+1} - r \leq 1$ $n+1$ $x_n - r$ $n+2$ $x_{n+1} - r$ $x \in (-\infty, -r] \cup [-\frac{1}{2}, \infty)$	
$x_{n+1} - r - x_n - r$ $x = x_n - r + x_{n+1} - r$ $R_f = \mathbb{R}$	
الف) $x = [x] + [x - n] \rightarrow [x] + [x - n] + r$ $R_f = \{r, r + \frac{1}{2}\}$	$\rightarrow$ $x_n - r$ $R_f = [-\frac{1}{2}, \frac{1}{2}]$
الف) $x_n - r + x_{n+1} - r$ $\min \rightarrow 1$ $\max \rightarrow 2$ $\frac{-b}{2a} = \frac{1}{2}$ ب) $x_n - r + x_{n+1} - r$ $\min \rightarrow 0$ $\max \rightarrow 1$ $\frac{-b}{2a} = -\frac{1}{2}$ در اینجا	$R_f = [-\frac{1}{2}, \frac{1}{2}]$ $R_f = [-\frac{1}{2}, \frac{1}{2}]$