

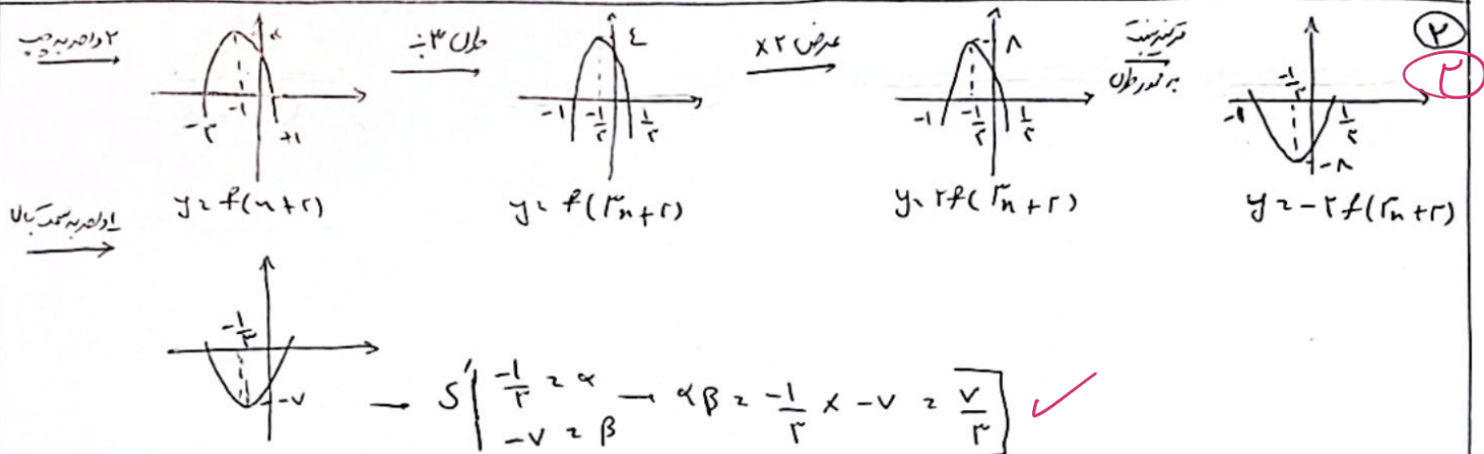
①

$$M \mid \frac{-b}{r_n} = \frac{r}{\delta} \rightarrow M' \mid \frac{r}{r} \rightarrow \Delta x = \varepsilon - \frac{r}{\delta} = \frac{1v}{\delta} \rightarrow \text{بهتر است} \rightarrow y = f(n - \Delta x) + \Delta y$$

$$\Delta y = r - \frac{r_n}{r_0} = \frac{\varepsilon v}{r_0} \rightarrow \text{بهتر است}$$

$$f(n) = \frac{1}{r} n^2 + \frac{c}{\delta} n + 1 \rightarrow y = \frac{1}{r} (n - \frac{1v}{\delta})^2 + \frac{c}{\delta} (n - \frac{1v}{\delta}) + 1 + \frac{\varepsilon v}{r_0} \rightarrow y = \frac{1}{r} (n - \frac{1v}{\delta})^2 + \frac{c}{\delta} (n - \frac{1v}{\delta}) + 1 + \frac{\varepsilon v}{r_0}$$

$$-r_0 t - r_0 t - r_0 t \rightarrow t = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{r_0 \pm 10}{2r_0} \rightarrow \begin{cases} t = \frac{1v}{\delta} \rightarrow n - \frac{1v}{\delta} = \frac{1v}{\delta} \rightarrow n = 2v \\ t = \frac{-1v}{\delta} \rightarrow n - \frac{1v}{\delta} = \frac{-1v}{\delta} \rightarrow n = 1 \end{cases}$$



③

$$y = 3 - \sqrt{2(x+1)} \rightarrow y = \sqrt{2(x+1)} - 3 \rightarrow y = \sqrt{2(x+1)} + 2$$

$$\rightarrow \sqrt{2x+2} + 2 = \frac{v}{r} \rightarrow \sqrt{2x+2} = \frac{v}{r} - 2 \rightarrow 2x+2 = \left(\frac{v}{r} - 2\right)^2 \rightarrow 2x = \left(\frac{v}{r} - 2\right)^2 - 2 \rightarrow x = \frac{\left(\frac{v}{r} - 2\right)^2 - 2}{2}$$

④

$$f(n-1) = f' \rightarrow D_{g'} + D_{f'} = D_{g'} \cap D_{f'} = (-r, \delta) \rightarrow D_f = (a, \varepsilon) \rightarrow D_{f'} = D_{f(n-1)}$$

$$\Rightarrow a < x < \varepsilon \rightarrow a < x-1 < \varepsilon \rightarrow a+1 < x < \delta \rightarrow D_{f'} = (a+1, \delta)$$

$$D_g = [-1, b) \rightarrow D_{g'} = D_{g(n+1)} \Rightarrow -1 < n < b \rightarrow -1 < n+1 < b \rightarrow -r < n < b-1 \rightarrow D_{g'} = [-r, b-1)$$

$$a+1 = -r \rightarrow a = -r-1$$

$$b-1 = \delta \rightarrow b = \delta+1 \rightarrow a = b = -r-4$$

⑤

$$D_{f(\frac{n}{r}+1)} = [-r, \delta] \rightarrow D_{f(n)} = \left[-\frac{r}{r}+1, \frac{\delta}{r}+1 \right] = \left[-1, \frac{\delta}{r}+1 \right]$$

$$R_{f(\frac{n}{r}+1)} = R_{f(n)} = [-1, r] \rightarrow R_{rf(n)} = [-r, \varepsilon] \rightarrow R_{rf(n)} = [-r, \varepsilon] \rightarrow R_{f'} = [0, \sqrt{5}]$$

