

۲۵. عالی نوشتار!

$y = \delta n$
 $\rightarrow y' = f_n \times \frac{1+\sqrt{\delta}}{2} = 2+2\sqrt{\delta}n$

$\rightarrow \frac{S'}{S} = \frac{f_n \times (2+2\sqrt{\delta})n}{f_n \times \delta n} = \frac{2+2\sqrt{\delta}}{\delta} \checkmark$

$\frac{\sqrt{n^2+y^2}}{y} = \frac{1+\sqrt{\delta}}{2} \rightarrow \frac{n^2+y^2}{y^2} = \frac{4+2\sqrt{\delta}}{2}$
 $\rightarrow \frac{n^2}{y^2} + 1 = 1 + \frac{2+2\sqrt{\delta}}{2} \rightarrow \frac{n^2}{y^2} = \frac{2+2\sqrt{\delta}}{2} \rightarrow \frac{y^2}{n^2} = \frac{2}{2+2\sqrt{\delta}} \checkmark$

$2-2a = \sqrt{2a^2+\varepsilon a} \rightarrow 4a^2-4a+\varepsilon = 2a^2+\varepsilon a \rightarrow 2a^2-4a+\varepsilon=0$
 در معادله $2a^2-4a+\varepsilon=0$ از فرمول درج دوم استفاده می‌کنیم
 $\begin{cases} a = \frac{4 \pm \sqrt{16-8\varepsilon}}{4} = \frac{4 \pm 2\sqrt{4-2\varepsilon}}{4} = \frac{2 \pm \sqrt{4-2\varepsilon}}{2} \end{cases}$
 $\rightarrow \frac{a+1}{a} = \frac{\frac{2 \pm \sqrt{4-2\varepsilon}}{2} + 1}{\frac{2 \pm \sqrt{4-2\varepsilon}}{2}} = \frac{4 \pm \sqrt{4-2\varepsilon}}{2 \pm \sqrt{4-2\varepsilon}} \checkmark$

$\frac{\sqrt{n+1}}{\sqrt{n-1}+2} - \frac{\sqrt{n+1}}{2-\sqrt{n-1}} = \frac{n-1}{\sqrt{n-1}} = \sqrt{n-1} \rightarrow \sqrt{n+1} \left(\frac{2-\sqrt{n-1}-\sqrt{n-1}-2}{10-n} \right) = \sqrt{n-1}$
 $\rightarrow \frac{-2\sqrt{n-1}\sqrt{n+1}}{10-n} = \sqrt{n-1}$
 $\rightarrow \sqrt{n+1} = \frac{10-n}{2}$
 $\rightarrow \sqrt{n+1} = 0 \rightarrow n+1=0 \rightarrow n=-1$ (در دامنه نیست)
 $\rightarrow \frac{10-n}{2} = 1 \rightarrow 10-n=2 \rightarrow n=8$ (در دامنه نیست)
 $\rightarrow \sqrt{n+1} = \frac{10-n}{2} \rightarrow n+1 = \frac{(10-n)^2}{4} \rightarrow 4n+4 = 100-20n+n^2 \rightarrow n^2-24n+96=0$
 $\rightarrow n = 12 \pm 4\sqrt{3}$ (در دامنه نیست)
 $\rightarrow n = 12 - 4\sqrt{3} \times n \geq 10$

$\frac{1}{\sqrt{r-n}+2} - \frac{1}{2-\sqrt{r-n}} = \frac{r-n}{2\sqrt{r-n}} = \frac{\sqrt{r-n}}{2}$
 $\rightarrow \frac{2-\sqrt{r-n}-\sqrt{r-n}-2}{2-\sqrt{r-n}} = \frac{\sqrt{r-n}}{2} \rightarrow \frac{-2\sqrt{r-n}}{2-\sqrt{r-n}} = \frac{\sqrt{r-n}}{2}$
 $\rightarrow \sqrt{r-n} = 0 \rightarrow n=r$ (در دامنه نیست)
 $\rightarrow \frac{-2}{2-\sqrt{r-n}} = \frac{1}{2} \rightarrow -1 = 2-\sqrt{r-n} \rightarrow \sqrt{r-n} = 3 \rightarrow r-n = 9 \rightarrow n = r-9$

$n = -12$

$$\frac{1}{n^2} + \frac{1}{(1-n)^2} = \frac{14}{9} \rightarrow \frac{(n-1)^2 + n^2}{n^2(n-1)^2} = \frac{2n^2 - 2n + 1}{(n(n-1))^2} = \frac{14}{9}$$

$$\rightarrow \frac{2(n(n-1)) + 1}{(n(n-1))^2} = \frac{14}{9} \xrightarrow{n(n-1)=t} \frac{2t+1}{t^2} = \frac{14}{9} \xrightarrow{+1} \frac{t^2+2t+1}{t^2} = \frac{149}{9}$$

$$\rightarrow \left(\frac{t+1}{t}\right)^2 = \left(\frac{14}{9}\right)^2 \rightarrow \begin{cases} 1 + \frac{1}{t} = \frac{14}{9} \rightarrow t = \frac{9}{5} \rightarrow n^2 - n = \frac{9}{5} \rightarrow S = 13 \\ 1 + \frac{1}{t} = -\frac{14}{9} \rightarrow t = -\frac{9}{17} \rightarrow n^2 - n = -\frac{9}{17} \rightarrow S = 1 \end{cases}$$

$$\sqrt{n} + \sqrt{-n^2 + 2n + 1} + \sqrt{n^2 - 4n - 1} = n + 2$$

$$-n^2 + 4n - 1 \geq 0 \rightarrow n^2 - 4n + 1 \leq 0 \rightarrow \frac{2}{1} \leq n \leq 2 \rightarrow n \in [2, 2] \quad (1)$$

$$-n^2(n-2) + 2(n-2) = (n-2)(2-n)(2+n) \geq 0 \rightarrow \frac{-2}{+} \frac{2}{-} \frac{2}{+}$$

$$\rightarrow n \in (-\infty, -2] \cup [2, \infty) \quad (2) \quad \text{معادله در جواب دارد}$$

$$y = |n+2| + |n-1| \quad y = -\frac{n}{2} + \frac{1}{2}$$

$$A \begin{vmatrix} 2 \\ 8 \end{vmatrix} \quad B \begin{vmatrix} -2 \\ 1 \end{vmatrix}$$

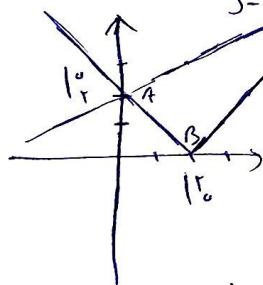
$$\frac{-n-1}{-2} = \frac{-n+1}{2} \quad \frac{n}{2} = \frac{1}{2} \quad \frac{1}{2}n = \frac{1}{2}$$

$$\rightarrow |AB| = \sqrt{4^2 + 2^2} = \sqrt{20} = 2\sqrt{5}$$

$$\frac{\partial n}{\partial} = \frac{-2}{2} \quad \frac{n}{2} = \frac{1}{2} \quad \frac{1}{2}n = \frac{1}{2}$$

$$\rightarrow n = -2 \quad \rightarrow n = 1 \quad n \in (-2, 1)$$

$$y = \sqrt{n^2 - 2n + 2} = |n-1| \quad y = \frac{1}{2}n + 2$$



$$\rightarrow \frac{1}{2}n + 2 = |n-1| \rightarrow \begin{cases} n \geq 1 \rightarrow \frac{1}{2}n + 2 = n - 1 \rightarrow n = 5 \\ n \leq 1 \rightarrow \frac{1}{2}n + 2 = 1 - n \rightarrow n = -3 \end{cases}$$

$$AB \rightarrow y = -n + 2$$

$$AB; |C \text{ و } G| = \frac{|4 + 1 - 1|}{\sqrt{2}} = \frac{4}{\sqrt{2}} \rightarrow S = \frac{1}{2} \times \frac{4}{\sqrt{2}} \times \frac{1}{2} = 1$$

$$\rightarrow \frac{1}{n} + \frac{1}{n+9} = \frac{1}{2}$$

میزان در n ساعت به روز رفتاری، ساعت
نوعار در n+9 ساعت

$$\rightarrow \frac{2n+9}{n^2+9n} = \frac{1}{2} \rightarrow n^2+9n = 2n+18 \rightarrow n^2-7n-18=0$$

$$\rightarrow n^2 - 7n - 18 = 0 \rightarrow \begin{cases} n = 9 \\ n = -2 \end{cases}$$