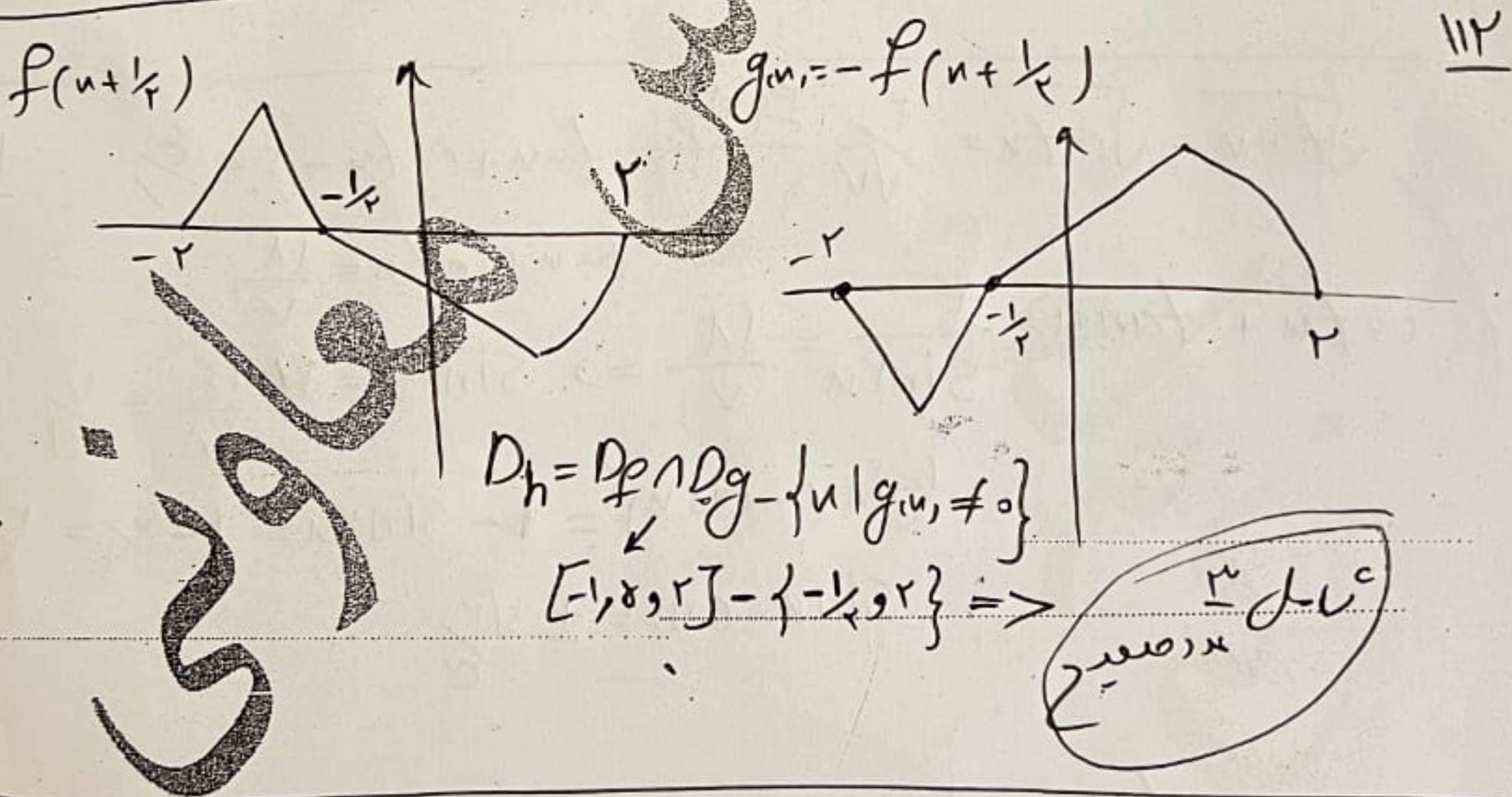
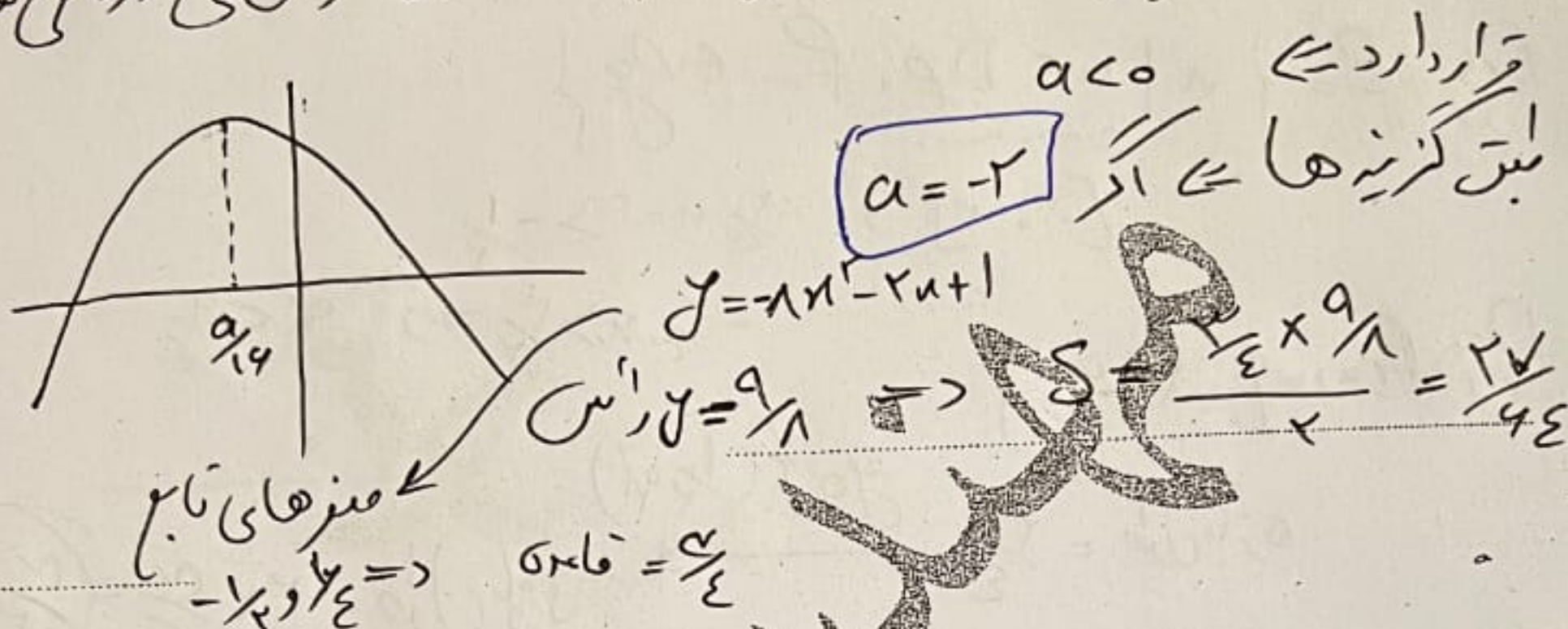


لکچر ۱۴۰۵ : جزئی ریاضی ۳

۱۱۱ چون قیمت بیشتر صاف، در ناصیه دوم است $\Rightarrow$ رأسی در دستن ها



۱۱۳

$$x \rightarrow x + \frac{1}{4} \Rightarrow (x + \frac{1}{4})^2 + 1,28(x + \frac{1}{4}) - 1,2 = 0$$

$$x^2 + \frac{1}{20}x + x + 1,28x + \frac{1}{4} \times \frac{1}{4} - 1,2 = 0$$

$$x^2 + 2,28x - \frac{1}{4} = 0 \Rightarrow \frac{c}{a} = -\frac{1}{4} \times \frac{1}{20}$$

$$f(u) = -\frac{r}{\epsilon} u - r$$

$$Dg \circ f = \{ u \mid u \in Df, f(u) \in Dg \}$$

$$[-r, -r], \quad -\frac{r}{\epsilon} u - r > -\frac{1}{\epsilon}$$

$$-\frac{r}{\epsilon} u > \frac{r}{\epsilon} \Rightarrow u < -\frac{r}{\epsilon}$$

$$Dg \circ f(u) = [-r, -\frac{r}{\epsilon}]$$

$$\text{مقدار بازه} = \frac{r}{\epsilon}$$

$$g \circ f(\frac{1}{\epsilon} u)$$

$$\text{مقدار بازه} = r \times \frac{r}{\epsilon} = \frac{r^2}{\epsilon}$$

$$\sqrt{\tan u} - \sqrt{\cot u} = \frac{r}{\sqrt{v}} \quad \tan u + \cot u - r = \frac{\epsilon}{\sqrt{v}} \quad 115$$

$$\tan u + \cot u = \frac{11}{\sqrt{v}}$$

$$\cot u + \tan u = \frac{1}{\sin^2 u} = \frac{11}{\sqrt{v}} \Rightarrow \sin^2 u = \frac{1\epsilon}{11} = \frac{v}{9}$$

$$(\sin u - \cos u)^2 = 1 - \sin^2 u = 1 - \frac{v}{9} = \frac{r}{9}$$

$$\sin u - \cos u = \pm \frac{\sqrt{r}}{3}$$

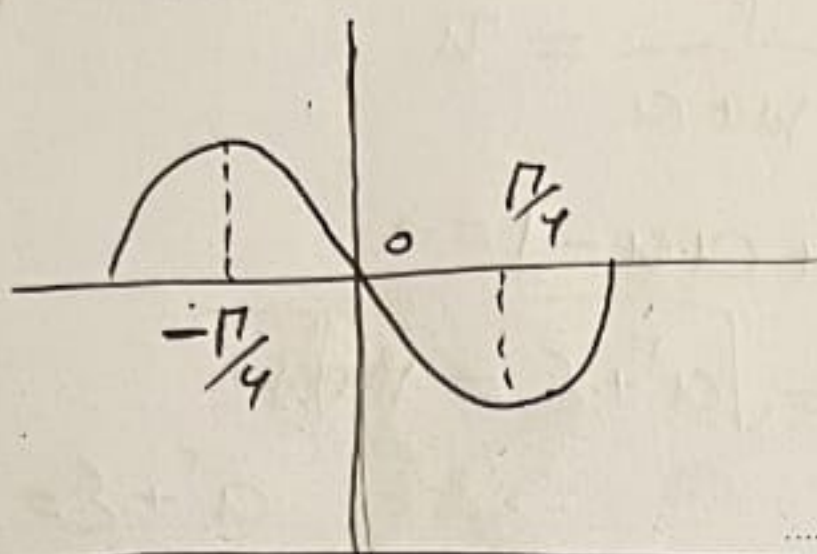
عدد $\tan u$ بزرگتر بود

زاویه به 270° نزدیک بود

$$-\frac{\sqrt{r}}{3}$$

$$f(u) = -\frac{1}{4} \cos\left(\frac{\pi}{4} + u\right) \Rightarrow f(u) = -\frac{1}{4} \sin u$$

۱۱۷



نهار ۳ بیتمی سدر

$$a = -\frac{\pi}{4}$$

$$\underbrace{\sin(\pi + u)}_{-\sin u} \underbrace{\cos\left(\frac{\pi}{2} + u\right)}_{-\sin u} + 1 = 2 \underbrace{\sin(\pi - u)}_{\sin u}$$

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$$\sin^2 u + 1 = 2 \sin u \Rightarrow (\sin u - 1)^2 = 0 \Rightarrow$$

$$\sin u = 1 \Rightarrow 90^\circ$$



$$2$$

$$\frac{1}{\frac{1}{2} - \log_2 \frac{1}{2}} = \frac{1}{\frac{1}{2} - \log_2 \frac{1}{2}} = \frac{1}{\frac{1}{2} - 1} = \frac{1}{-\frac{1}{2}} = -2$$

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$$\frac{1}{\frac{1}{2} - \log_2 \frac{1}{2}} = \frac{1}{\frac{1}{2} - 1} = \frac{1}{-\frac{1}{2}} = -2$$

$$f_n = \frac{1}{n+a} \Rightarrow \frac{1}{n+a} = n$$

معادله $y=n$ را در f_n جایگزین می‌کنیم

$$n^2 + an - 1 = 0$$

$$\sqrt{a^2 + 4} = \frac{-a \pm \sqrt{a^2 + 4}}{2}$$

فصل ۱۴.۵

$$a^2 + 4 = 4$$

$$a^2 = 0$$

$$a = 0$$

$$\lim_{n \rightarrow 2^-} \frac{f_n - f(2)}{n^2 - 4} = 0$$

$$= \frac{-1}{4}$$

$$\lim_{n \rightarrow 2^-} \frac{f'_n}{f'_n} = \frac{f'_n}{f'_n} = 1$$

نسبت چپ ۲

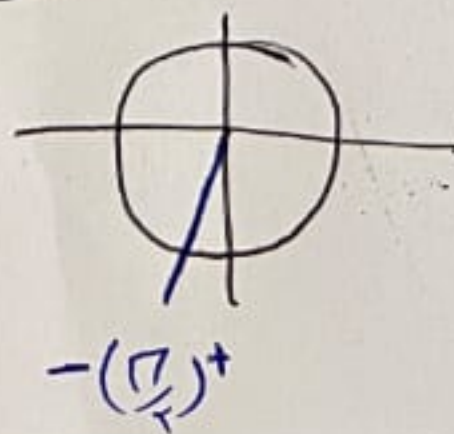
نسبت چپ ۱

$$\lim_{n \rightarrow 0^-} \frac{|n - |n||}{n^2 + 2n} = a$$

$$\lim_{n \rightarrow 0^-} \frac{|n + n|}{n^2 + 2n} = \lim_{n \rightarrow 0^-} \frac{2n}{n^2 + 2n} = \lim_{n \rightarrow 0^-} \frac{2}{n + 2} = 0$$

$$\lim_{n \rightarrow 0^-} \frac{2}{n + 2} = -1 \Rightarrow a = -1$$

$$\lim_{n \rightarrow \frac{\pi}{2}^+} \tan(-n) = +\infty$$



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$$f(u) = 1 + \frac{2u}{a} \Rightarrow f'(u) = \frac{2}{a} u - \frac{a}{2}$$

$$g = \begin{cases} 1 + \frac{2u}{a} & u \geq -1 \\ \frac{a}{2}u - \frac{a}{2} & u < -1 \end{cases} \xrightarrow{\text{بدر}} 1 - \frac{2}{a} = -\frac{a}{2} - \frac{a}{2} \Rightarrow$$

$$1 - \frac{2}{a} = -a \quad a^2 + a - 2 = 0$$

$$a = 1 \quad \text{و} \quad a = -2$$

$$a = -2 \quad \checkmark$$

$$g(-1) = 2$$

چون مثبت ها
معبر n ها را قبول دارند

۱۲۵

$$f(u) = |u^2 - \varepsilon|$$

$$u = r^+ \Rightarrow f(u) = u^2 - \varepsilon \quad f'(u) = 2u$$

$$f'(r^+) = \varepsilon$$

$$u = r^- \Rightarrow f(u) = -u^2 + \varepsilon \Rightarrow f'(u) = -2u$$

$$f'(r^-) = -\varepsilon$$

$$\text{افتلا} = 1$$

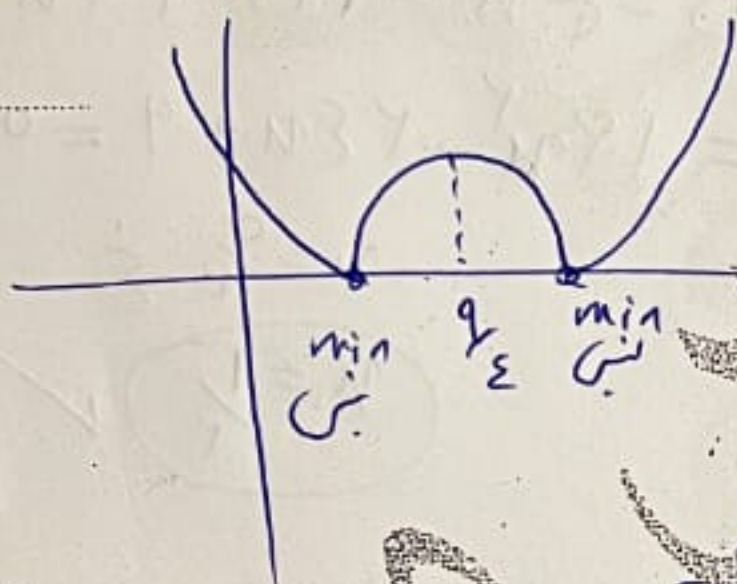
کنکور ۱۴۸۸ ریاضی ۳ - تجربی

۱۲۶ نوع آهنگ مشخص نباشد آن را لحاظی در نظر می گیریم

$$m(t) = \frac{9t+2}{\sqrt{t}} \Rightarrow m'(t) = \frac{9\sqrt{t} - \frac{1}{2\sqrt{t}}(9t+2)}{t} \xrightarrow{t=1} \textcircled{3}$$

$$f(u) = 2u^2 - 9u + a$$

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$$\Delta > 0$$

$$11 - 11a > 0$$

$$a < \frac{11}{11}$$

$$\frac{9 - \sqrt{11 - 11a}}{2} \geq 1 \Rightarrow$$

$$a \geq 1$$

$$1 < a < \frac{11}{11}$$

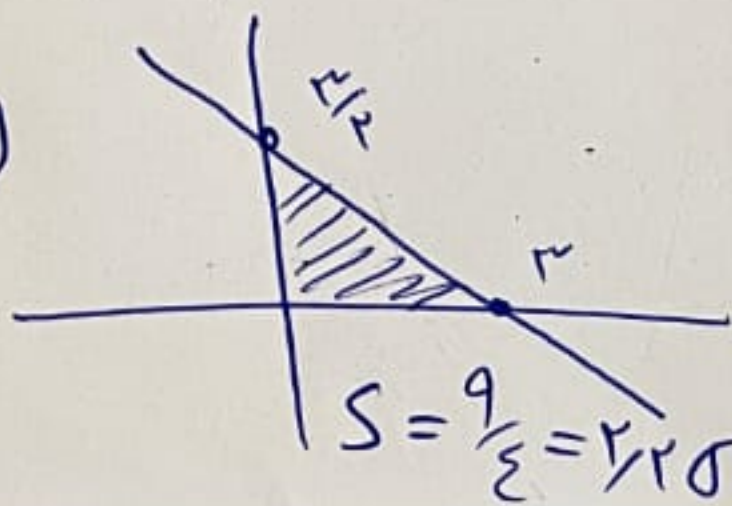
$$a = 1, 9$$

$$y = \sqrt{2-u} \xrightarrow{(a,a)} a = \sqrt{2-a} \Rightarrow \textcircled{a=1} \quad 128$$

$$f'(u) = \frac{-1}{2\sqrt{2-u}} \Rightarrow f'(1) = -\frac{1}{2} \Rightarrow (1,1)$$

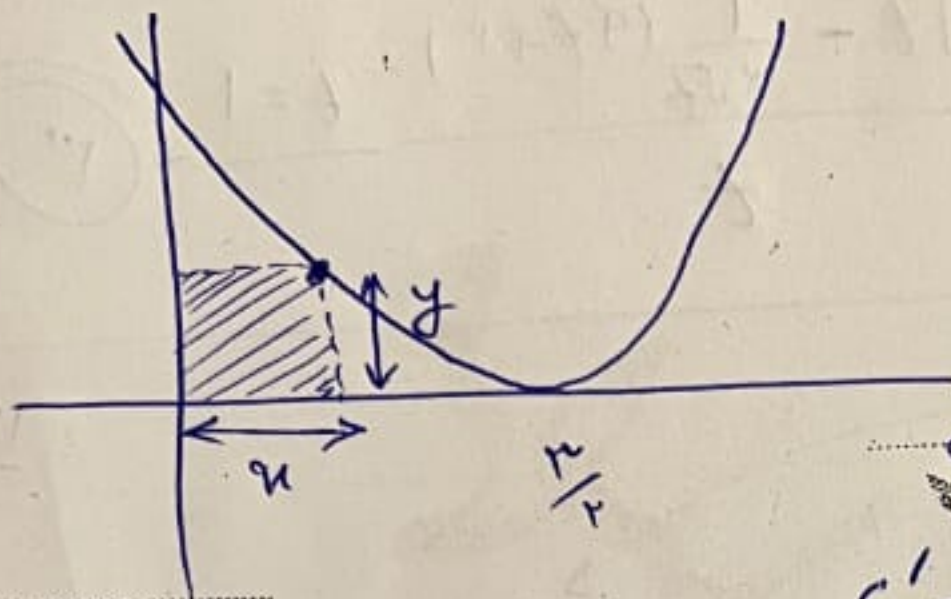
$$y - 1 = -\frac{1}{2}(u - 1)$$

$$y = -\frac{1}{2}u + \frac{3}{2}$$



$$f_{\text{ور}} = \varepsilon n^2 - 12n + 9 \Rightarrow f_{\text{ور}} = (2n - 3)^2$$

۱۲۹



$$S = ny$$

$$S = n(\varepsilon n^2 - 12n + 9)$$

$$S = \varepsilon n^3 - 12n^2 + 9n$$

$$S' = 3\varepsilon n^2 - 24n + 9 = 0$$

$$n = \frac{9}{4} \varepsilon$$

$$n = \frac{1}{4} \checkmark$$

$$\max S = \frac{1}{4} \times \varepsilon = 2$$

$$P(\text{مجموع فرد / کمترین فرد})$$

$$= \frac{P(\text{کمترین فرد})}{P(\text{مجموع فرد})} = \frac{\frac{\binom{5}{1}}{\binom{10}{1}}}{\frac{\binom{5}{1} + \binom{6}{2} + \binom{5}{3}}{\binom{10}{3}}} = \frac{10}{\cancel{10}} = \frac{1}{\cancel{10}} = \frac{1}{2}$$

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نکته ۱۴.۸. تجزی، ریاضی ۳

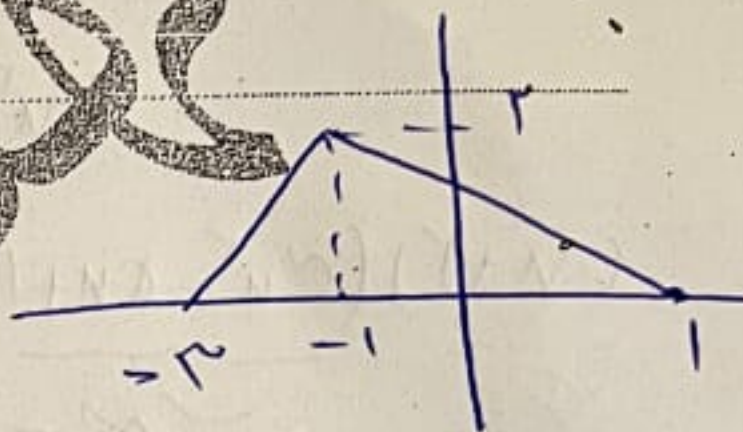
$$y = x + c \Rightarrow \frac{r}{a} = -1 \Rightarrow a = -2$$

$$y = \frac{r}{a}x - \frac{r}{a} \Rightarrow y = -x + 1 \rightarrow (1, 0)$$

$$(-1, 2) \rightarrow (-2, 0)$$

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$$S = \frac{4 \times 2}{2} = 4$$



$$x^2 + y^2 - 2x - y - 1 = 0$$

$$O(1, \frac{1}{2})$$

$$O'(\alpha, \alpha)$$

$$R = \frac{1}{2} \sqrt{4 + 1 + 4} = \frac{\sqrt{9}}{2} = \frac{3}{2}$$

$$R' = 2$$

$$\sqrt{(\alpha - 1)^2 + (\alpha - \frac{1}{2})^2} = R - R'$$

$$(\alpha - 1)^2 + (\alpha - \frac{1}{2})^2 = \frac{9}{4} - 4$$

$$\alpha = -1$$

$$\alpha = \frac{5}{4}$$

$$P(\frac{5}{4}, \frac{5}{4})$$

$$\text{فاصله تا مبدأ} = \sqrt{\frac{25}{16} + \frac{25}{16}} = \frac{5\sqrt{2}}{2} = (2, 5\sqrt{2})$$

$$\frac{S_n}{n} = 17 \Rightarrow \frac{n}{2}(a + 17r) = 17n \Rightarrow a = 2$$

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$$n = 11 \text{ تعداد جمله}$$

$$d = 1$$

$$\Rightarrow S_n = \frac{11}{2}(2 + 17) = 1894$$