

$$\frac{x_1}{y_1} = \frac{0}{r} \Rightarrow x_1 = 0k \quad y_1 = rk \quad S_1 = r \cdot k^2 \leq 1, 2\alpha$$

$$\frac{(x_1 + x_2)^{n_2}}{y_1 + y_2} = \frac{1 + \sqrt{5}}{r} \Rightarrow n_2 = \frac{rk + r\sqrt{5}k}{r} = k + r\sqrt{5}k \quad S_2 = \frac{rk^2(1 + \sqrt{5})}{r \cdot k^2} = \frac{1 + \sqrt{5}}{1}$$

$$\frac{l}{n} = \frac{1 + \sqrt{5}}{r} \Rightarrow \frac{\sqrt{x^2 + y^2}}{n} = \frac{1 + \sqrt{5}}{r} \Rightarrow \frac{x^2 + y^2}{n^2} = \left(\frac{1 + \sqrt{5}}{r}\right)^2$$

$$l^2 = x^2 + y^2 \rightarrow 1 + \left(\frac{y}{n}\right)^2 = \left(\frac{1 + \sqrt{5}}{r}\right)^2 = \frac{1 + 2 + 2\sqrt{5}}{r^2} \Rightarrow \left(\frac{y}{n}\right)^2 = \frac{2 + 2\sqrt{5} - 1}{r^2} = \frac{1 + 2\sqrt{5}}{r^2}$$

$$l = \sqrt{x^2 + y^2} \xrightarrow{\text{مربع}} \left(\frac{n}{y}\right)^2 = \frac{r^2}{r^2 + 2\sqrt{5}r} = \frac{1}{r + 2\sqrt{5}} = \frac{r - 2\sqrt{5}}{r^2 - 20} = \frac{r - 2\sqrt{5}}{r^2 - 20}$$

$$\sqrt{r^2 + k^2} = r - k \xrightarrow{\text{مربع}} r^2 + k^2 = r^2 - 2rk + k^2 \Rightarrow 2rk = 0 \Rightarrow r = 0 \text{ or } k = 0$$

$$\rightarrow a = r, \frac{r}{V} \checkmark \quad r^2 + k^2 > 0 \quad r(a^2 + k^2) \geq 0 \quad k(a + r) > 0$$

$$\frac{-r}{2} \quad \frac{a+1}{a} = \frac{r}{V} + 1 \div \frac{r}{V} = \frac{9}{r}$$

$$\frac{\sqrt{x+1}}{\sqrt{x-1} + r} - \frac{\sqrt{x+1}}{r - \sqrt{x-1}} = \frac{n-1}{\sqrt{x-1}} \Rightarrow \frac{\sqrt{x+1} (r - \sqrt{x-1} - \sqrt{x-1} - r)}{9 - x + 1} = \frac{n-1}{\sqrt{x-1}}$$

$$(\sqrt{x+1})(-2\sqrt{x-1}) = (n-1)(10-n)$$

$$\sqrt{x+1} = \frac{(n-1)(10-n)}{-2\sqrt{x-1}} \Rightarrow \sqrt{x+1} = \frac{(n-1)(10-n)}{-2\sqrt{x-1}} \text{ if } n \geq 1$$

$$-2\sqrt{x+1} = 10 - n \xrightarrow{\text{مربع}} 4x + 4 = 100 - 20n + n^2 \Rightarrow n^2 - 20n + 96 = 0$$

$$n = 12 \text{ or } n = 8$$

$$n \geq 1 \Rightarrow n = 12 \Rightarrow D = [1, +\infty)$$

$$(r - n) = t \Rightarrow \frac{1}{\sqrt{t+1}} - \frac{1}{r - \sqrt{t}} = \frac{t}{5\sqrt{t}} \Rightarrow \frac{r - \sqrt{t} - \sqrt{t} - r}{r - t} = \frac{t}{5\sqrt{t}}$$

$$\Rightarrow \frac{-2\sqrt{t}}{r - t} = \frac{t}{5\sqrt{t}} \Rightarrow -2\sqrt{t} + rt = -10t \Rightarrow t^2 - 14t = 0 \Rightarrow t(t - 14) = 0$$

$$t = 0 \Rightarrow r - n = 0 \Rightarrow n = r \quad \text{مربع} \rightarrow n = r \Rightarrow \text{مربع} \rightarrow r - n \geq 0 \quad r \geq n$$

$$t = 14 \Rightarrow r - n = 14 \Rightarrow n = r - 14 \quad \text{مربع} \rightarrow r - n \geq 0 \quad r \geq n$$

$$\frac{\sqrt{x^2 + y^2}}{n} = \frac{\sqrt{5+1}}{r} \rightarrow \frac{x^2 + y^2}{n^2} = \frac{r^2 + 6}{r^2} \quad \frac{y^2}{n^2} = \frac{1 + \sqrt{5}}{r^2} \Rightarrow \frac{x^2}{y^2} = \frac{\sqrt{5}-1}{r^2}$$

$$\frac{(1-n)^2 + n^2}{n^2(1-n)^2} = \frac{14}{9} \Rightarrow 18n^2 - 18n + 9 = 14n^2(1-n)^2$$

$$\frac{1}{n} = a \quad \frac{1}{1-n} = b \Rightarrow a^2 + b^2 = \frac{14}{9} \quad (a+b) = \frac{n-n+1}{n(1-n)} = \frac{1}{n(1-n)}$$

$$a^2 + b^2 = (a+b)^2 - 2ab = \left(\frac{1}{n(1-n)}\right)^2 - 2\left(\frac{1}{n(1-n)}\right) \cdot b = \frac{1}{n(1-n)}$$

$$\Rightarrow \frac{1}{n(1-n)} = t \quad t^2 - 2t = \frac{14}{9} \Rightarrow t^2 - 2t - \frac{14}{9} = 0$$

$$t = \frac{2 \pm \sqrt{4 + \frac{56}{9}}}{2} \quad \textcircled{1} \quad \frac{1}{n(1-n)} = \frac{2 + \frac{\sqrt{64}}{3}}{2} \Rightarrow 14n(1-n) = 2$$

$$-14n^2 + 14n = 2 \Rightarrow 14n^2 - 14n + 2 = 0 \rightarrow \Delta = 1$$

$$\textcircled{2} \Rightarrow \frac{1}{n(1-n)} = \frac{2 - \frac{\sqrt{64}}{3}}{2} = \frac{-2}{2} \Rightarrow -2n(1-n) = 2$$

$$2n^2 - 2n - 2 = 0 \Rightarrow \Delta = 1$$

$$1 + 1 = \boxed{2} \Rightarrow \text{نکته: 2}$$

$$-n^2 + 4n - 1 \geq 0 \Rightarrow 2 \leq n \leq 4 \quad n^2 + \sqrt{-n^2 + 4n - 1} \geq 0$$

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

$$-n^4 + 4n^2 + 2n - 1 \geq 0 \Rightarrow$$

$$n = 2 \rightarrow -16 + 16 + 4 - 1 = 0 \quad \text{غلط}$$

$$n = 3 \rightarrow -81 + 36 + 6 - 1 = -40 \quad \text{غلط}$$

$$n = 4 \rightarrow -256 + 64 + 8 - 1 = -245 \quad \text{غلط}$$

① جواب: هیچ عددی در حاد صریح ندارند. عبارت را می توان به اعداد صحیح از 2 تا 4 محدود کرد.

$$A(1, 5) \quad B(-4, 7)$$

$$\begin{aligned} AB &= \sqrt{(1-0)^2 + (-4-2)^2} \\ &= \sqrt{1 + 36} = \sqrt{37} \\ &= 2\sqrt{10} \end{aligned}$$

$$\begin{aligned} -n-2-n+1 &= -\frac{1}{3}n + \frac{14}{3} \\ \rightarrow -2n &= 2 \\ n &= -1 \\ (-4, 7) \end{aligned}$$

$$\begin{aligned} n+2+1-n &= \frac{1}{3}n + \frac{14}{3} \\ \rightarrow 3 &= -n+14 \\ n &= 11 \quad \text{غلط} \end{aligned}$$

$$\begin{aligned} n+2+n-1 &= \frac{1}{3}n + \frac{14}{3} \\ \rightarrow 2n &= 14 \\ n &= 7 \\ (2, 10) \end{aligned}$$

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

بروز = x
فجاء = y

$$\Rightarrow \frac{\cancel{x+a} + x}{x(x+a)} = \frac{1}{r} \Rightarrow x^r + ax = r_0 x + 11.$$

(5)

$$\Rightarrow x^r - r_1 x - 11 = 0 \quad x = \frac{r_1 \pm \sqrt{1411}}{r} \Rightarrow \bar{x} = \frac{r_1 + r_1}{r} = \boxed{r_9}$$

$$n \geq 2 \Rightarrow n - 2 = \frac{1}{2}n + 2 \Rightarrow n = 4$$

نقاط لانه

$$n < 2 \Rightarrow 2 - n = \frac{1}{2}n + 2 \Rightarrow n = 0$$

(2)

مثلاً با ۲ واحد و ارتفاع ۳: $\frac{2 \times 3}{2} = 3$ ← بنی ۲ و $n \rightarrow \infty$ ارتفاع $\sqrt[3]{12}$

مثلاً با ۶ واحد و ارتفاع ۳: $\frac{6 \times 3}{2} = 9$ ← بنی ۲ و $n = 1, 2$