

$$\left(\frac{1}{n} + \frac{1}{1-n}\right)^r - r\left(\frac{1}{n(1-n)}\right) = \frac{14}{9} \rightarrow \frac{1}{n(1-n)} = t \quad t^r - r t = \frac{14}{9} \quad t^r - r t + 1 = \frac{149}{9}$$

$$\frac{1-9n+9n}{n(1-n)} = \frac{1}{n(1-n)}$$

$$(t-1)^r = \frac{149}{9}$$

$$t-1 = \frac{14}{9} \rightarrow t = \frac{14}{9}$$

$$t-1 = \frac{-14}{9} \rightarrow t = \frac{-10}{9}$$

$$\frac{1}{n(1-n)} = \frac{14}{9} \rightarrow -n^r + n - \frac{14}{9} = 0$$

$$S_1 = 1$$

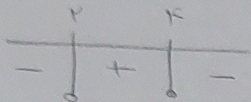
$$\frac{1}{n(1-n)} = \frac{-14}{9} \rightarrow -n^r + n + \frac{14}{9} = 0$$

$$S_2 = 1$$

$$S_1 + S_2 = 2$$

$$-n^r + 9n - 14 \geq 0$$

$$-(n-2)(n-7) \geq 0$$



$$n \in [2, 7] \text{ (I)}$$

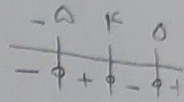
$$-n^r + 15n^r + 14n - 14 \geq 0$$

$$(n^r - 14n) - (15n^r - 14n) \leq 0$$

$$n(n^r - 14) - 15(n^r - 14) = (n-15)(n+14)(n-1) \leq 0$$

$$(I) \cap (II) \rightarrow n = 15 \rightarrow \frac{15}{15} = 1$$

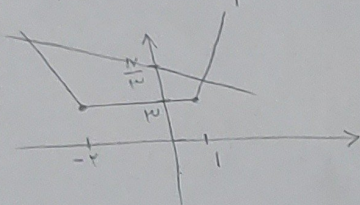
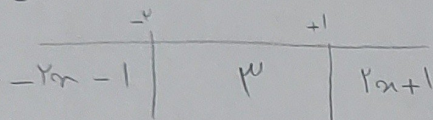
نقطه ۱۵



$$(-\infty, -14] \cup [1, 15]$$

$$(II)$$

$$y = |n+2| + |n-1|$$



$$y = -\frac{1}{15}n + \frac{14}{15}$$

$$|n+1| = -\frac{1}{15}n + \frac{14}{15}$$

$$\frac{1}{15}n = \frac{14}{15} \rightarrow n = 14 \quad y = 0$$

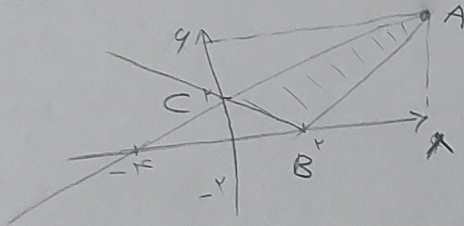
$$-|n-1| = -\frac{1}{15}n + \frac{14}{15}$$

$$\frac{-10}{15}n = \frac{14}{15} \rightarrow n = -14 \quad y = 14$$

$$AB = \sqrt{(14 - (-14))^2 + (0 - 14)^2} = 14\sqrt{10}$$

$$y = \sqrt{n^r - 14n + 14} = \sqrt{(n-2)^2} = |n-2|$$

$$y = \frac{1}{15}n + 14$$



$$A \text{ and } B \rightarrow |14 + 14 - 2| = \frac{14}{\sqrt{2}} = 9\sqrt{2}$$

$$BC = \sqrt{14^2 + 14^2} = 14\sqrt{2}$$

$$S = \frac{14\sqrt{2} \times 9\sqrt{2}}{2} = 126$$

رک	رک	مجموعه
۱۴	۱۴	$\frac{1}{14}$
۱۴	۱۴	$\frac{1}{14}$
۱۴	۱۴	$\frac{1}{14}$

$$\left(\frac{1}{n} + \frac{1}{n+9} = \frac{1}{14}\right) (n)(n+9)(14)$$

$$14n + 140 + 14n = n^2 + 9n$$

$$n^2 - 14n - 140 = 0$$

$$(n-14)(n+10) = 0$$

$$n = 14 \quad n = -10$$

(تکلیف ۱۸)

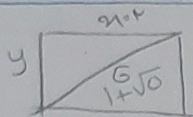
(فصل ششم)

(بازدهم و دهم)

۲۰

$$\frac{\omega + n}{r} = \frac{1 + \sqrt{5}}{r} \rightarrow \text{طول} = 2 + 2\sqrt{5}$$

$$\frac{S_{\text{کل}}}{S_{\text{اولی}}} = \frac{(2 + 2\sqrt{5}) \times r}{2 \times r} = \frac{2 + 2\sqrt{5}}{2}$$



$$\frac{G}{x} = \frac{1 + \sqrt{5}}{r}$$

$$rG = x + x\sqrt{5}$$

$$G^2 = x^2 + y^2$$

$$\sqrt{1 + 0 + 2\sqrt{5}} = \frac{r}{r + 2\sqrt{5}} = y$$

$$\frac{x}{y} = \frac{r}{\sqrt{2 + 2\sqrt{5}}} \rightarrow$$

$$\frac{r}{2 + 2\sqrt{5}} = \frac{r}{2(1 + \sqrt{5})}$$

$$\sqrt{r^2 + r^2} = r - r^2$$

$$r^2 + r^2 = r^2 + 9r^2 - 12r^2$$

$$r^2 - 12r^2 + r^2 = 0$$

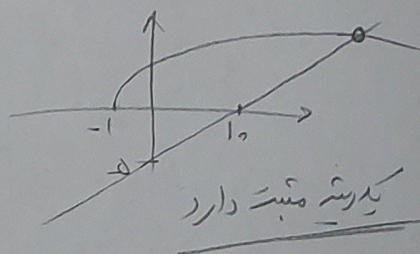
$$r^2 - 12r^2 + r^2 = 0 \rightarrow (r - 12)(r - 1) = 0 \rightarrow r = 12 \rightarrow \text{در صورتی که } r = 12 \text{ باشد}$$

$$\frac{a+1}{a} = \frac{\frac{r}{v} + 1}{\frac{r}{v}} = \frac{\frac{r}{v} + 1}{\frac{r}{v}} = \frac{r}{v} = \frac{r}{v}$$

$$\frac{3\sqrt{n+1} - \sqrt{n^2-1} - \sqrt{n^2-1} - 3\sqrt{n+1}}{9 - (n-1)} = \frac{-2(\sqrt{n+1})(\sqrt{n+1})}{10-n} = \sqrt{n+1}$$

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

$$\sqrt{n+1} = \frac{n}{2} - 5$$



$$\frac{r - \sqrt{r-n} - \sqrt{r-n} - r}{r - (r-n)} = \frac{-2\sqrt{r-n}}{r-n} = \frac{r-n}{\omega\sqrt{r-n}}$$

$$-10(r-n) = -20 + 10n = r - n^2 \rightarrow n = r - 12 \rightarrow \text{منفی}$$

$$n^2 + 10n - 12 = (n-2)(n+12) = 0 \rightarrow n = +2 \rightarrow \text{مثبت}$$

مربوط ندارد