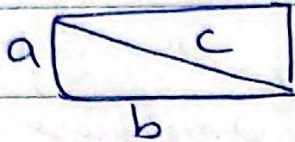


$$\frac{(x+t)y}{xy} = \frac{1+\sqrt{5}}{x}$$

$$\frac{d(x+t)}{dy} = \frac{1+\sqrt{5}}{x}$$

$$\cdot \frac{1}{x} (1+\sqrt{5})$$



$$c^2 = a^2 + b^2$$

$$c = \sqrt{a^2 + b^2}$$

$$\frac{c}{b} = \frac{1+\sqrt{5}}{x}$$

$$\frac{\sqrt{a^2 + b^2}}{b} = \frac{1+\sqrt{5}}{x}$$

$$\sqrt{1 + \left(\frac{a}{b}\right)^2} = \frac{1+\sqrt{5}}{x} \rightarrow 1 + \left(\frac{a}{b}\right)^2 = \frac{1+\sqrt{5}}{x^2} \rightarrow \left(\frac{a}{b}\right)^2 = \frac{1+\sqrt{5}}{x^2} - 1$$

$$\left(\frac{b}{a}\right)^2 = \frac{1}{\frac{1+\sqrt{5}}{x^2} - 1} = \left(\frac{b}{a}\right)^2 = \frac{x^2}{1+\sqrt{5} - x^2}$$

$$(\sqrt{1a^2 + 1a})^2 = (1 - 1a)^2 \rightarrow 1a^2 + 1a = 1 - 2a + 1a^2$$

$$1a^2 - 14a + 1 = 0 \rightarrow (a - 15)(a - 1) = 0$$

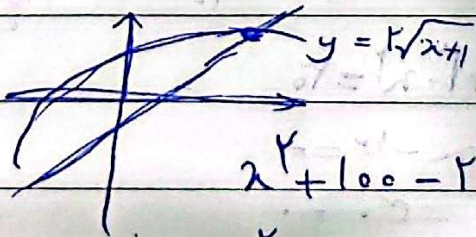
$$\sqrt{1a^2 + 1a} = 1 - 1a$$

$$\sqrt{1\left(\frac{1}{x}\right)^2 + 1\left(\frac{1}{x}\right)} = 1 - 1\left(\frac{1}{x}\right)$$

$$\frac{\frac{1}{x} + 1}{\frac{1}{x}} = \frac{1}{x} = \frac{1}{x} = \frac{1}{x} = \frac{1}{x}$$

$$\frac{\sqrt{x+1}}{\sqrt{x-1} + 1} - \frac{\sqrt{x+1}}{x - \sqrt{x-1}} = \frac{x-1}{\sqrt{x-1}}$$

$$\frac{\sqrt{x+1}(x - \sqrt{x-1} - \sqrt{x-1} - 1)}{(x)^2 - (x-1)} = \sqrt{x-1} \rightarrow \frac{-2\sqrt{x-1}\sqrt{x+1}\sqrt{x-1}}{1 - x} = \sqrt{x-1}$$



$$x - 1 = x\sqrt{x+1}$$

$$x^2 + 100 - 20x = x\sqrt{x+1}$$

$$x^2 - 20x + 100 = 0$$

$$x = 15 \pm 5\sqrt{4}$$

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$$\frac{x - \sqrt{x-n} - \sqrt{x-n} - x}{x - (x-n)} = \frac{2\sqrt{x-n}}{(n-x)^2} = \frac{x-x}{-n\sqrt{x-n}} \quad (3)$$

15

$$(x-x)^2 = -10(x-n) \rightarrow 10n - 10 = x^2 + 2x - 2x$$

اگر $x=2$ خارج عبارت را صفر می کند

$$x^2 - 12x + 12 = 0 \quad (x-2)(x-12) = 0$$

$$x = 2, 12$$

ریشه یکتا است! $x = -12$

عدد در صفر قرار می گیرد

$$\left(\frac{1}{n} + \frac{1}{1-n}\right)^2 - 2 \frac{1}{n(1+n)} = \frac{14}{9} \quad (4)$$

$$\left(\frac{1}{n(1-n)}\right) = t$$

$$\frac{1}{n(1-n)^2} - 2\left(\frac{1}{n(1-n)}\right) = \frac{14}{9} \quad (5)$$

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

$$(t-1)^2 = \frac{149}{9} \rightarrow t-1 = \frac{12}{3} \rightarrow t = \frac{14}{3}$$

$$t-1 = -\frac{12}{3} \rightarrow t = -\frac{10}{3}$$

$$\frac{1}{n(1-n)} = \frac{14}{3} \rightarrow -n^2 + n = \frac{14}{3} \rightarrow n(1-n) = \frac{14}{3}$$

$$14n - 14n^2 = 3 \rightarrow n^2 - 14n + 3 = 0 \rightarrow (n-12)(n-1) = 0$$

$$S_1 = 1$$

$$\frac{1}{n(1-n)} = \frac{14}{3}$$

$$x = \frac{12}{14} \rightarrow \frac{12}{14}$$

$$-\frac{1}{2} \rightarrow \frac{12}{14}$$

$$-\frac{1}{2} + \frac{12}{14} = 1$$

$$S_1 + S_2 = 2$$

$$-\log n + \log n^2 = 2$$

$$\log n^2 - \log n = 2$$

$$n^2 - \log n - 2 = 0$$

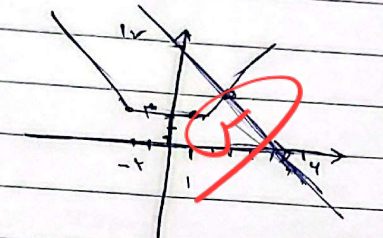
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DATE: ...

$$\frac{\omega + \sqrt{\omega^2 + \omega} + \omega - \sqrt{\omega^2 + \omega}}{1} = 1$$

$$\begin{cases} 2n+1 & n > 1 \\ 2 & -2 < n \leq 2 \\ -2n-1 & n \leq -2 \end{cases}$$

$10. \quad 10. \quad -$

$2y + 2 = 10$



$2n+1 = -n+10 \rightarrow 3n+1 = -n+10 \rightarrow n=9$
 $-2n-1 = -n+10 \rightarrow -n-11 = -n+10$

$AB = \sqrt{(1-(-5))^2 + (2-10)^2} = \sqrt{16+64} = \sqrt{80} = 4\sqrt{5}$

$$\begin{cases} 2n+2 & n > 2 \\ n-2 & n \leq 2 \end{cases}$$

$-n^2 + 4n - 8 \geq 0$
 $-(n^2 - 4n + 8) \geq 0$
 $-(n-2)(n-6) \leq 0$

$\frac{2}{4} \quad \frac{2}{6} \rightarrow 2 \leq n \leq 6$

$-n^2(n-6) + 2(n-6) \geq 0$
 $(n-6)(-n^2+2) \geq 0$
 $(n-6)(6-n)(6+n) \geq 0$

$n \leq -6$
 $6 \leq n \leq 6$

$n = 6$

$$\frac{1}{x} + \frac{1}{x-9} = \frac{1}{x}$$

$\frac{1}{x-9} = \frac{1}{x} - \frac{1}{x} = 0$

$\frac{1}{x-9} = 0$

$x-9 = 0$

$x = 9$

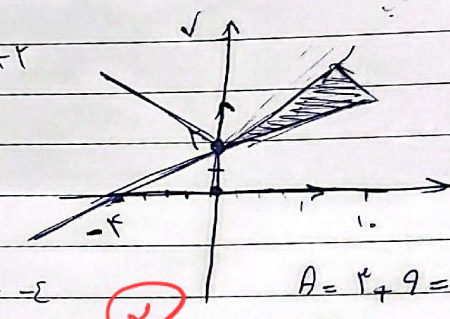
$2 = n^2 - 9n + 18$
 $(n-6)(n-3) = 0$

$n = 6, 3$

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$$y = \sqrt{n^2 - 9n + 18} \Rightarrow \sqrt{(n-6)^2} = |n-6|$$

$y = \frac{1}{2}n + 2$



$0 = \frac{1}{2}n + 2$
 $-2 = \frac{1}{2}n$
 $n = -4$

$A = 2 + 9 = 11$

$1n + 1 = \frac{1}{2}n + 2$
 $n - 2 = \frac{1}{2}n + 2 \rightarrow \frac{1}{2}n = 4 \rightarrow n = 8$
 $n + 1 = -2 - \frac{1}{2}n \rightarrow \frac{3}{2}n = -3 \rightarrow n = -2$

(1) مساحت مثلث (از 0 تا 2)
 (2) مساحت مثلث (از 2 تا 9)