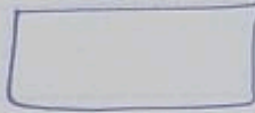
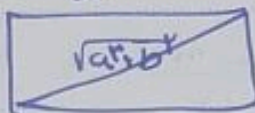


ϵ_m  $\frac{\text{طول}}{\text{ارتفاع}} = \frac{\left(\frac{1+\sqrt{5}}{2} \times \epsilon_m\right) \epsilon_m}{0.5 \times \epsilon_m} = \frac{1+\sqrt{5}}{2}$

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


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

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

$1 + \frac{b^2}{a^2} = \frac{4+2\sqrt{5}}{2} \Rightarrow \left(\frac{b}{a}\right)^2 = \frac{4+2\sqrt{5}}{2} - 1$

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

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

$2a + \sqrt{2a^2 + \epsilon a} = 2 \rightarrow \sqrt{2a^2 + \epsilon a} = 2 - 2a$

$2a^2 + \epsilon a = 4 - 4a + 4a^2$

$\sqrt{a^2 + 4a + 4} = 2$

$\Delta = (-14)^2 - 4 \times 1 \times 15 = 1$

$a = \frac{-14 \pm 1}{2}$

$a = 2$ (X)

$a = \frac{2}{1} = 2$ (✓) $\rightarrow \frac{0.4}{a} = 0.2$

$$\frac{\sqrt{n+1}}{\sqrt{n-1} + r} = \frac{r \cdot \sqrt{n+1}}{r - \sqrt{n-1}} = \frac{n-1}{\sqrt{n-1}} \quad (r)$$

$$\sqrt{n+1} \left(\frac{r - \sqrt{n-1} - r - \sqrt{n-1}}{(r + \sqrt{n-1})(r - \sqrt{n-1})} \right) = \sqrt{n-1}$$

$$\sqrt{n+1} = \left(-\frac{2\sqrt{n-1}}{4 - (n-1)} \right) = \sqrt{n-1} \rightarrow -\frac{2\sqrt{n+1}}{1-n} \quad (5)$$

$$r \sqrt{n+1} = 1 + n \rightarrow f(n+1) = n^r - r \cdot n + 1$$

$$n^r - r \cdot n + 1 \rightarrow \Delta = (-r)^r - r \cdot r + 1 = r^r - r^2 + 1 \quad n = \frac{r^r - r^2 + 1}{r}$$

$$r \cdot \frac{1}{r} = 1 \quad \text{و } \frac{1}{r} = \frac{1}{r}$$

10

(a)

$$\frac{1}{\sqrt{r-n} + r} = \frac{1}{r - \sqrt{r-n}} = \frac{r-n}{\Delta \sqrt{r-n}}$$

$$\frac{r - \sqrt{r-n} - r - \sqrt{r-n} - r}{(r + \sqrt{r-n})(r - \sqrt{r-n})} = \frac{r-n}{\Delta \sqrt{r-n}} \quad (5)$$

15

$$\frac{-r \sqrt{r-n}}{r - (r-n)} = \frac{r-n}{\Delta \sqrt{r-n}} = 1 \cdot (r-n) = (r+n)(r-n)$$

$$-r + 1 \cdot n = r - n^r$$

$$n^r + 1 \cdot n - r = 1$$

$$(n+1)(n-r)$$

$$-1r$$

$$(4r)$$

$$\frac{1}{r} = \frac{1}{r}$$

نصف (+) و نصف (-)

←

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

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

$$\frac{n^r - \epsilon n \alpha}{n^r (1-n)^r} = \frac{14}{9}$$

$$\frac{r(n^r - \alpha) + 1}{(n^r - \alpha)^r} = \frac{14}{9} \xrightarrow{\alpha^r - \alpha = t}$$

$$\frac{rt + 1}{t^r} = \frac{14}{9} \quad (5)$$

$$14 \cdot t^r - 14t + 9 \rightarrow 14 \cdot t^r - 14t + 9 = 0$$

$$\frac{14 \pm \sqrt{(14)^r - 4(14)(-9)}}{r \times 14} \leftarrow t = \frac{14 \pm \sqrt{(14)^r - 4(14)(-9)}}{r \times 14}$$

$$t = \frac{14 \pm 9\sqrt{149}}{r \times 14}$$

$$\rightarrow t = -\frac{r}{14} \rightarrow n^r - \alpha + \frac{r}{14} = 0$$

$$t = \frac{r}{1} \rightarrow n^r - \alpha - \frac{r}{1} = 0$$

$$|4| = 2$$

$$\sqrt{n + \sqrt{-n^r + \epsilon n^r + r \delta n - 100}} + \sqrt{n^r + \sqrt{-n^r + \epsilon n - 1}} = n + r \quad (V)$$

$$-n^r + \epsilon n - 1 \geq 0 \rightarrow n^r - \epsilon n + 1 \leq 0 \quad (n-r)(n-\epsilon) \leq 0 \quad (5)$$

$$r \leq n \leq \epsilon \quad (I)$$

$$-n^r + \epsilon n^r + r \delta n - 100 \geq 0 \quad n^r(-n + \epsilon) + r \delta(n - \epsilon) \geq 0$$

$$(n - \epsilon)(r \delta - n^r) \geq 0$$

$$n < -\delta < \epsilon \leq n \leq \delta \quad (II)$$

$$(I) \cap (II) \rightarrow n = \epsilon \rightarrow \sqrt{\epsilon + \sqrt{0}} = \sqrt{149} \quad \Delta \sqrt{149} = 2$$

$$\epsilon \alpha r = \epsilon + r \checkmark$$

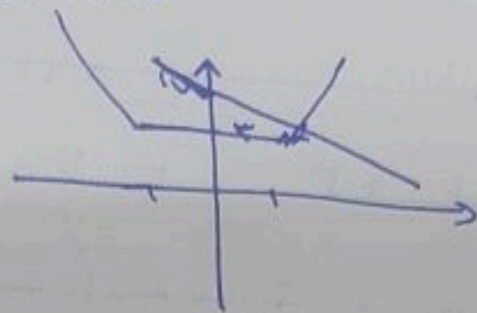
$$(n = \epsilon)$$

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

$$A \begin{vmatrix} 1 \\ 0 \end{vmatrix}$$

$$B \begin{vmatrix} -1 \\ 1 \end{vmatrix}$$

$$y + n = 1$$



(1)

9

$$AB = \sqrt{1 - (-1)^2 + (0 - 1)^2} = \sqrt{1 + 1} = \sqrt{2}$$

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

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

(9)

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

$$y + n = 1$$

$$-y = \frac{1}{\epsilon} n - 1$$

$$\frac{1}{\epsilon} n < n \Rightarrow y > 1$$

$$y - n = -1$$

$$-y = \frac{1}{\epsilon} n - 1$$

$$-\frac{1}{\epsilon} n = -1$$

$$\frac{|4n-1|}{\sqrt{1}} = \frac{1\sqrt{1}}{1} = 4\sqrt{1} \Rightarrow S = \frac{1\sqrt{1} \times 4\sqrt{1}}{1} = 4$$

(1)

$$n \geq \frac{1}{\epsilon}$$

$$\frac{1}{n} < \frac{1}{n+1} < \frac{1}{4}$$

$$n > 4 \Rightarrow \frac{1}{n+1}$$

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

$$\epsilon = n+1 \Rightarrow n^2 + 1 < n$$

$$n^2 - 1 < n+1 \Rightarrow 0$$

$$n = \frac{1 \pm \sqrt{(1)^2}}{1} = \frac{1 \pm 1}{1} = 0, 2$$

$$n = 2 \checkmark$$

$$n = 0 \text{ } \checkmark$$