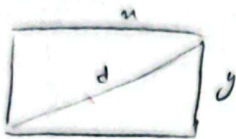


$$\frac{y}{x} = \frac{a}{2}$$

$$y = \frac{a}{2} x$$

$$\frac{1+\sqrt{a}}{r} = \frac{n}{y} \frac{r}{a} n$$

$$\frac{n}{a} = \frac{r + r\sqrt{a}}{a}$$



$$d = \sqrt{n^2 + y^2}$$

$$\frac{y}{d} = \left(\frac{n}{y}\right)^2$$

$$\frac{\sqrt{n^2 + y^2}}{n} = \frac{1 + \sqrt{a}}{r}$$

رؤی

$$\frac{n^2 + y^2}{n^2} = \frac{4 + 2\sqrt{a}}{r}$$

$$1 + \frac{y^2}{n^2} = \frac{4 + 2\sqrt{a}}{r} \rightarrow \frac{y^2}{n^2} = \frac{2 + \sqrt{a}}{r}$$

$$\frac{n}{y} = \frac{1}{r + \sqrt{a}}$$

$$\frac{r}{a} + \sqrt{r^2 + \frac{a}{r}}$$

$$\frac{a+1}{a}$$

$$\sqrt{r^2 + \frac{a}{r}} = r - \frac{a}{r} \xrightarrow{\text{رؤی}} r^2 + \frac{a}{r} = \frac{a}{r} + r^2 - 1 \rightarrow r^2 - 1 = \frac{a}{r} - \frac{a}{r} = 0$$

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

رؤی

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

$$\frac{\sqrt{a+1}}{\sqrt{a-1} + r} = \frac{\sqrt{a+1}}{r - \sqrt{a-1}} = \frac{a-1}{\sqrt{a-1}}$$

$$n \neq 1$$

$$1 - n = -r\sqrt{a-1} \rightarrow$$

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

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

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

$$(r - \sqrt{r-n})$$

$$n \neq -r$$

$$\frac{r - \sqrt{r-n} + r - \sqrt{r-n}}{a - r + n} = \frac{-r\sqrt{r-n}}{r+n} = \frac{\sqrt{r-n}}{a} \rightarrow -10 = (r+n - n - 1) \rightarrow$$

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

10/10/20

10/10/20

-4

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

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$$1 - n(1-n) = 1 - n + n^2 = 1 - n + n^2$$

10/10/20

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$$\sqrt{x^2 - 4x + 4} + \sqrt{x^2 + 4x + 4} = 2x + 2$$

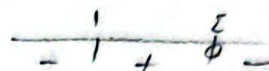
$$\sqrt{(x-2)^2} + \sqrt{(x+2)^2} = 2x + 2$$

$$x + \sqrt{(x-2)(x-2)(x+2)} \rightarrow 0 \leq (x-2)(x+2)(x+2)$$

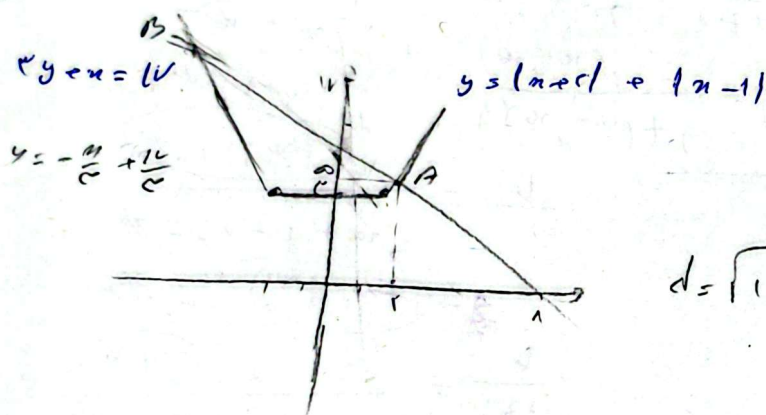
$$x \in (-\infty, -2] \cup [2, \infty)$$



$$0 \leq -x^2 + 9x - 11 \rightarrow (x+1)(x+5) = (x-1)(x-5)$$



$$y = \sqrt{5} + \sqrt{14} = 2 + 5 = 7$$



$$d = \sqrt{(1+0)^2 + (0-\frac{14}{5})^2} = \frac{1}{5} \sqrt{10} = \frac{2}{5} \sqrt{10}$$

$$A \Rightarrow x + y - 1 = -\frac{x}{2} + \frac{14}{5} \rightarrow 2x + 2y - 2 = -x + \frac{28}{5} \rightarrow 3x + 2y = \frac{38}{5}$$

$$A \left(\frac{1}{5}, \frac{14}{5} \right) \quad y = -\frac{x}{2} + \frac{14}{5} = \frac{27}{10}$$

$$B \Rightarrow -1 - 2x = -\frac{x}{2} + \frac{14}{5} \rightarrow -2 - 4x = -x + \frac{28}{5} \rightarrow -3x = \frac{38}{5} \rightarrow x = -\frac{38}{15}$$

$$B = \left(-\frac{38}{15}, \frac{14}{5} \right) \quad y = -\frac{x}{2} + \frac{14}{5} = \frac{118}{15}$$

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

$$y = \sqrt{x^2 - 4x + 4} = |x - 2|$$

$$\frac{1}{2}x + 1 = x - 2 \quad \frac{1}{2}x + 1 = 2 - x$$

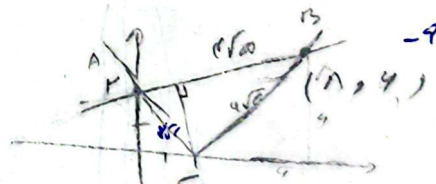
$$\frac{x}{2} = -3$$

$$x = \frac{1}{2}x$$

$$x = -6$$

$$y = 1$$

$$(x = 4, y = 4)$$



$$d_{AB} = \sqrt{4^2 + (2-0)^2} = \sqrt{20} = 2\sqrt{5}$$

$$S = 15\sqrt{5} + 4\sqrt{5} = 19\sqrt{5}$$