

20

18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

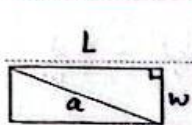
18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

$$\sigma_{\text{sub}} = \frac{1}{(w)_{\text{sub}}} = \frac{1+\sqrt{a}}{y}$$

$$S = r_x \times \Delta x = r_0 x^r$$

(2) -1

$$\frac{L'}{r_x} = \frac{1+\sqrt{a}}{y} \Rightarrow L' = r_x (1+\sqrt{a}) \Rightarrow S' = r_x \times r_x (1+\sqrt{a}) \Rightarrow \frac{S'}{S} = \frac{r_x \times r_x (1+\sqrt{a})}{r_0 x^r} = \frac{y}{a} (1+\sqrt{a})$$



$$a = \sqrt{L^2 - w^2} \Rightarrow \frac{\sqrt{L^2 - w^2}}{L} = \frac{1+\sqrt{a}}{y} \Rightarrow \frac{L^2 - w^2}{L^2} = \frac{(1+\sqrt{a})^2}{y^2} \Rightarrow r_x L^2 + r_w^2 = r_x L^2 + L^2 \sqrt{a} \Rightarrow w^2 = L^2 \left(\frac{1+\sqrt{a}}{y} \right)^2$$

(2)

$$\Rightarrow \frac{L^2}{w^2} = \frac{y}{1+\sqrt{a}} = \frac{\sqrt{a}-1}{y}$$

$$r_x a + \sqrt{r_x^2 + r_a^2} = y \Rightarrow \sqrt{r_x^2 + r_a^2} = y - r_x \Rightarrow r_x^2 + r_a^2 = 9a^2 - 12a + r \Rightarrow 12a^2 - 14a + r = 0$$

$$\Rightarrow a^2 - 14a + 12 = 0 \Rightarrow (a-12)(a-1) = 0 \Rightarrow a = \frac{12}{y} = 12x, a = \frac{y}{y}$$

(2)

$$\frac{a+1}{a} = \frac{\frac{4}{y}}{\frac{y}{y}} = \frac{4}{y} = 4, 0$$

$$\frac{\sqrt{x+1}}{\sqrt{x-1} + y} - \frac{\sqrt{x+1}}{y - \sqrt{x-1}} = \frac{x-1}{\sqrt{x-1}} \Rightarrow \frac{\sqrt{x+1} - \sqrt{x-1} - \sqrt{x-1} - y\sqrt{x+1}}{y - (x-1)} = \frac{-y\sqrt{x-1}}{10-x} = \frac{x-1}{\sqrt{x-1}} \Rightarrow -y\sqrt{x+1} \times (x-1) = (x-1)(10-x)$$

(2)

$$(x > 1) \Rightarrow -y\sqrt{x+1} = 10-x \Rightarrow \sqrt{x+1} = \frac{10-x}{y} \Rightarrow (x+1) = \frac{(10-x)^2}{y^2} \Rightarrow x^2 - 20x + 99 = 0$$

$$x = \frac{20 \pm \sqrt{400 - 396}}{2} = 12 \pm \sqrt{4} = 12 \pm 2 = 14, 10$$

$$\sqrt{y-x} = t \Rightarrow \frac{1}{t+y} - \frac{1}{y-t} = \frac{y-t-t-y}{t^2} = \frac{-2t}{t^2} = \frac{-2}{t} \Rightarrow \frac{-2}{t} = \frac{1}{a} \Rightarrow \frac{-2}{t} = \frac{1}{a}$$

(2)

$$\frac{y-x}{\sqrt{y-x}} = \frac{t^r}{\Delta t} = \frac{t}{a}$$

$$\Rightarrow t^2 = -10 \Rightarrow t^2 = 10 \Rightarrow t = \pm \sqrt{10}$$

$$t = \sqrt{y-x} \Rightarrow \sqrt{y-x} = \sqrt{10} \Rightarrow y-x = 10 \Rightarrow x = -10$$

$$x = \frac{1}{t} + t \Rightarrow \frac{1}{(\frac{1}{t} + t)^2} + \frac{1}{(\frac{1}{t} - t)^2} = \frac{14}{9} \rightarrow \frac{t^2 - t + \frac{1}{t} + t^2 + t + \frac{1}{t}}{(\frac{1}{t} - t^2)^2} = \frac{14}{9}$$

$$\Rightarrow \frac{X(t^2 + \frac{1}{t})}{(\frac{1}{t} - t^2)^2} = \frac{14}{9} \rightarrow 9t^4 - 14t^2 + 11 = 0 \rightarrow t^2 = \frac{14 \pm \sqrt{144}}{18} \rightarrow \frac{11}{9} \rightarrow t = \pm \sqrt{\frac{11}{9}} \rightarrow t = \pm \frac{\sqrt{11}}{3}$$

$$x = t + \frac{1}{t} \rightarrow x = \frac{1}{t} + t, x = \frac{1}{t} - t, x = \frac{1}{t} + \sqrt{\frac{11}{9}}, x = \frac{1}{t} - \sqrt{\frac{11}{9}}$$

$$\Rightarrow \frac{1}{t} + \frac{1}{t} + \frac{1}{t} + \sqrt{\frac{11}{9}} + \frac{1}{t} - \sqrt{\frac{11}{9}} = \frac{14}{9}$$

$$\textcircled{1} -x^2 + 5x + 12x - 100 \geq 0 \rightarrow -(x-5)(x-20) \geq 0 \rightarrow D = (-\infty, -5] \cup [20, \infty)$$

$$\textcircled{2} -x^2 + 4x - 1 \geq 0 \rightarrow -(x-2)(x-1) \geq 0 \rightarrow D = [1, 2]$$

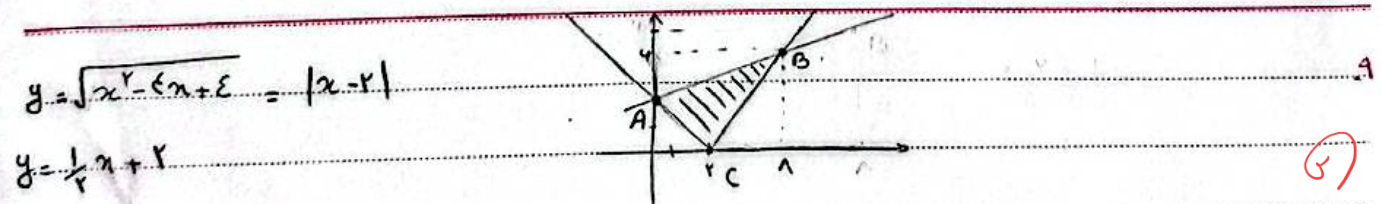
$$1, 2 \rightarrow x = 1 \Rightarrow \sqrt{1} + \sqrt{14} = 1 + \sqrt{14} \checkmark \Rightarrow x = 1 \cup \sqrt{14}$$

$$xy + x = 14 \rightarrow y = \frac{14-x}{x}$$

$$y = |x+2| + |x-1| \rightarrow \begin{cases} x+1 & ; x \geq 1 \\ 3 & ; -2 < x < 1 \\ -x-1 & ; x \leq -2 \end{cases}$$

$$\begin{cases} A \Rightarrow x \leq -2 \rightarrow -x-1 = \frac{14-x}{x} \rightarrow 14-x = -x^2-2x \rightarrow x^2+x-14=0 \rightarrow x = -5, y = 3 \Rightarrow A = (-5, 3) \\ B \Rightarrow x \geq 1 \rightarrow x+1 = \frac{14-x}{x} \rightarrow 14-x = x^2+x \rightarrow x^2+2x-14=0 \rightarrow x = 3, y = 4 \Rightarrow B = (3, 4) \end{cases}$$

$$AB = \sqrt{\Delta x^2 + \Delta y^2} = \sqrt{3^2 + 4^2} = \sqrt{25} = 5$$



$$A \rightarrow y-x = \frac{1}{2}x+2 \Rightarrow 2y-2x = x+4 \Rightarrow x=0, y=2 \quad C = (0, 2)$$

$$B \rightarrow x-y = \frac{1}{2}x+2 \Rightarrow 2x-2y = x+4 \Rightarrow x=4, y=4$$

$$S = \frac{1}{2} \begin{vmatrix} 1 & 0 & 1 \\ 0 & 2 & 1 \\ 1 & 4 & 1 \end{vmatrix} = \frac{1}{2} (1 \cdot 2 \cdot 1 + 0 \cdot 1 \cdot 1 - 1 \cdot 4 \cdot 1) = \frac{1}{2} (2 + 0 - 4) = \frac{1}{2} \cdot (-2) = -1$$

Subject:

Date

$$\left. \begin{array}{l} \text{مخرج} \rightarrow x \rightarrow \frac{1}{x} \text{ قسمة} \\ \text{مخرج} \rightarrow x+4 \rightarrow \frac{1}{x+4} \text{ قسمة} \end{array} \right\} \frac{1}{x} + \frac{1}{x+4} = \frac{1}{20} \Rightarrow \frac{x+4+x}{x^2+4x} = \frac{1}{20}$$

$$\Rightarrow 20x + 110 = x^2 + 4x \rightarrow x^2 - 16x - 110 = 0$$

$$\Rightarrow \underbrace{(x-14)}_{20} \underbrace{(x+5)}_{-20} = 0 \rightarrow \underbrace{x=14}_{\text{مخرج}}$$