

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

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

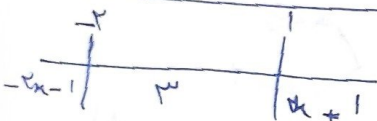
$$x+2 \geq 0 \rightarrow x \geq -2 \quad (1)$$

$$-x + 5x^2 + 10x - 100 \geq 0$$

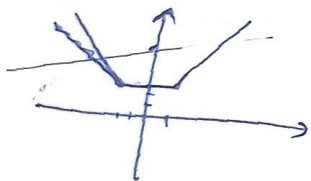
$$\frac{-x + 5x^2 + 10x - 100}{-x^2 + 5x^2} \left| \frac{x-5}{-x^2+5x} \right|$$

$$-x^2 + 4x - 10 \geq 0 \rightarrow x^2 - 4x + 10 \leq 0$$

$$(x-2)(x-5) \leq 0 \rightarrow x \in [2, 5]$$



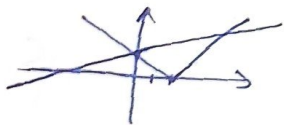
$$y = -\frac{x}{2} + \frac{10}{x}$$



$$B \begin{vmatrix} 2 & 1 \\ 0 & 1 \end{vmatrix} A \begin{vmatrix} 1 \\ 2 \end{vmatrix} \rightarrow d = 2\sqrt{10}$$

$$\begin{matrix} -x-2 = 10-x \\ -x = 12 \end{matrix} \quad \begin{matrix} -x \\ 12 \end{matrix}$$

$$\sqrt{x^2 - 4x + 4} = \sqrt{(x-2)^2} = |x-2| \quad \frac{1}{x+2} \geq x-2 \rightarrow x = 1$$



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

$$\begin{matrix} 0 & 1 \\ 1 & 0 \\ 0 & 0 \\ 0 & 0 \end{matrix}$$

$$S = \frac{2 \cdot 1 + 1 \cdot 0}{1} = 2$$

$$\frac{1}{x+9} + \frac{1}{x} = \frac{1}{9} \rightarrow \frac{x}{x+9} = \frac{x+9}{x} \rightarrow x^2 - 81 = 0 \rightarrow x = 9$$

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

$$x^2 - 81 = 0 \rightarrow (x-9)(x+9) = 0$$

$$x = 9$$

$$(x-9)(x+9) = 0$$

$$x = 9$$

$$x = 9$$

