

1

$$y \leq \log y \leq \frac{1}{2}$$

Y

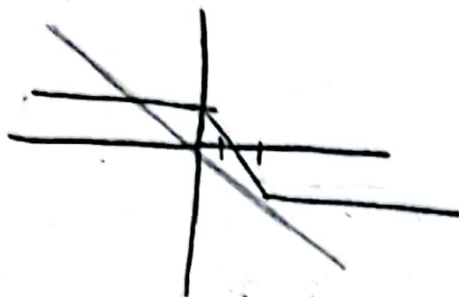
$$\begin{aligned} a &= 0 \\ b &= \frac{2}{3} \\ c &= 1 \end{aligned}$$

3]

2

3

$$|x-2|-|x-1| = kx$$

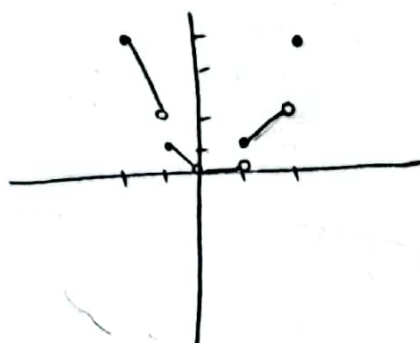


تفاوت در این صورت معادله دو جواب دارد
که وسط از نقطه 1 و 2 است
 $2k = -1 \Rightarrow k = -\frac{1}{2}$

الف) $x[x]$

✓

$[-2, -1) \rightarrow -2x$
 $[-1, 0) \rightarrow -x$
 $[0, 1) \rightarrow 0$
 $[1, 2) \rightarrow x$



بردار $[0, 2] - \{1\}$

ب) $x|x| - x$

$x \geq 0 \rightarrow x^2 - x$
 $x < 0 \rightarrow -x^2 - x$



بردار $[-2, 2]$

$$\frac{1}{x} + \frac{1}{x+1} + \frac{1}{x^2+x}$$

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

$x \neq 0$

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



بردار $(-\infty, +\infty) - \{0, -2\}$

$0 + (-2) = -2$

$a + b = -2$

$$y = \frac{x - \sqrt{x} + 1}{x - 2\sqrt{x} + 1} = \frac{(\sqrt{x}-1)(\sqrt{x}-3)}{(\sqrt{x}-1)^2} = \frac{\sqrt{x}-3}{\sqrt{x}-1}$$

$$\sqrt{x} \neq 1 \quad x \neq 1$$

$$y = \frac{\sqrt{x}-3}{\sqrt{x}-1}$$

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$$y\sqrt{x}-y=\sqrt{x}-3$$

$$(y-1)\sqrt{x}=y-3$$

$$\sqrt{x} = \frac{y-3}{y-1} \quad \left(\frac{1}{0} - \frac{3}{0} + \right)$$

$$\frac{y-3}{y-1} \geq 0 \quad (-\infty, +1) \cup [3, +\infty)$$

$$\frac{\cancel{x^2} + 2x^2 - n - 2}{-\cancel{x^2} + x^2} + \frac{x-1}{x^2+3x+2}$$

$$\frac{x^2 - n - 2}{x^2 - 1}$$

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$$\frac{x^2 - n - 2}{x^2 - 1}$$

$$y = \frac{(x+1)(x+2)}{(x^2-1)} = \frac{(x+1)(x+2)(x-1)}{(x-1)(x+1)} \quad \boxed{10}$$

$$y \neq 1, 3 \quad x \neq \pm 1$$

$$x = \{3, 1\}$$

$$1+3 = \textcircled{4}$$