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خط لنگر از نقطه $\left(\frac{1}{2}, \frac{1}{2}\right)$

الف) $\left(\frac{1}{2}, \frac{1}{2}\right)$

$$y - \frac{1}{2} = -\frac{1}{2}(x - \frac{1}{2}) \rightarrow y = -\frac{1}{2}x + \frac{3}{4}$$

$$y = -\frac{1}{2}x + \frac{3}{4}$$

ب) $y = -\frac{1}{2}x + \frac{3}{4}$

ج) $y = -\frac{1}{2}x + \frac{3}{4}$

د) $y = -\frac{1}{2}x + \frac{3}{4}$

۲

نقطه $\left(\frac{1}{2}, \frac{1}{2}\right)$

الف) $\left(\frac{1}{2}, \frac{1}{2}\right)$

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

$$\sqrt{15} = \sqrt{5}$$

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

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

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$$\sqrt{(\Delta y)^2 + (\Delta x)^2} = \sqrt{(1)^2 + (4)^2} = \sqrt{100} = 10$$

(الف)

$$x = \frac{x_1 + x_2}{2} \rightarrow \frac{-5 + 3}{2} = -1$$

(-1, 1)

(ب)

$$y = \frac{y_1 + y_2}{2} \rightarrow \frac{2 - 2}{2} = 1$$

$$x_G = \frac{x_1 + x_2 + x_3}{3} \rightarrow \frac{-10 - 2 + 3}{3} = -3$$

(-3, -3)

(الف)

$$y_G = \frac{y_1 + y_2 + y_3}{3} \rightarrow \frac{-13 + 3 + 1}{3} = -3$$

$$S = \frac{1}{3} | x_A (y_B - y_C) + x_B (y_C - y_A) + x_C (y_A - y_B) |$$

$$\frac{1}{3} | 3(14) - 2(-12) - 10(-2) | = \boxed{24}$$

(ب)

$$y = \frac{2n+1}{2n-3}$$

$$-y = \frac{2n+1}{2n-3}$$

← (الف)

$$y = \frac{-2n+1}{-2n-3}$$

← (ب)

$$y = \frac{2n+1}{2n-3} \rightarrow -n = \frac{-2y+1}{-2y-3}$$

$$x = \frac{2y+1}{2y-3} \rightarrow y = \frac{2n+1}{2n-3}$$

← (ج)

$$\begin{aligned} x' &= x - \alpha \\ y' &= y - \beta \end{aligned}$$

$$y = \frac{2n+1}{n-3}$$

$$x' = x - 2 \rightarrow x = x' + 2$$

(الف)

$$y' = y + 3 \rightarrow y = y' - 3$$

$$y' = \frac{2n'+2}{n'-1}$$

$$(y' - 3) = \frac{2(n'+2)+1}{(n'+2)-3} \rightarrow$$

$$y' = \frac{2}{n'} \rightarrow (y'+3) = \frac{2(n'+3)+1}{(n'+3)-3} \rightarrow \begin{aligned} x' &= x - 3 \rightarrow x = x' + 3 \\ y' &= y - 2 \rightarrow y = y' + 2 \end{aligned}$$

(ب)

$$x = \frac{12}{19}$$

$$x = \frac{12}{19} \rightarrow x = \frac{12}{19}$$

$$y = \frac{3-2}{-19} = -\frac{1}{19}$$

$$\begin{cases} 3x + 2y = 2 \\ x - 0y = 1 \end{cases}$$

$$\begin{cases} 3x + 2y = 2 \\ -3x + 10y = -3 \end{cases}$$

← (الف)

$$14y = -1 \rightarrow y = -\frac{1}{14}$$

$$3x = \frac{22}{19} \rightarrow x = \frac{22}{57}$$

$$x = \frac{12}{19}$$

دستور اول و دوم
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