

الف)

$$|A| = \sqrt{(y_1 - y_2)^2 + (x_1 - x_2)^2}$$

$$|A| = \sqrt{4 + 4} = \sqrt{8} = 2\sqrt{2} \checkmark$$

ب)

$$M = \left[\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right]$$

$$M = [-1, 1] \checkmark$$

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الف) $n_G = \frac{n_1 + n_2 + n_3}{3}$

$$y_G = \frac{y_1 + y_2 + y_3}{3}$$

$$n_G = -3 \checkmark$$

$$y_G = -3 \checkmark$$

ب) $\Delta = \frac{1}{2} \begin{vmatrix} 3 & 1 & 1 \\ -2 & 2 & 1 \\ -6 & -12 & 1 \end{vmatrix} \Rightarrow$

$$\frac{1}{2} (9 - 6 + 22 + 12 + 12 + 1) = 21 \checkmark$$

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الف) $-y = \frac{2n+1}{4n-2}$

$$y = \frac{-2n-1}{4n-2} \checkmark$$

ب) $y = \frac{-2n+1}{-4n-2} \checkmark$

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ج) $n = \frac{2y+1}{4y-2} \Rightarrow y = \frac{4n+1}{4n-2} \checkmark$

د) $-n = \frac{-2y+1}{-4y-2} \Rightarrow y = \frac{-2n+1}{4n+2} \checkmark$

الف) $\begin{cases} n' = n-2 \rightarrow n = n'+2 \\ y' = y+2 \rightarrow y = y'-2 \end{cases}$

$$y'-2 = \frac{2(n'+2)+1}{n'+2-2} \Rightarrow y' = \frac{2n'+5}{n'-1} + 2$$

$$y' = \frac{2n'+9}{n'-1} \checkmark$$

ب) $\begin{cases} n' = n-2 \rightarrow n = n'+2 \\ y' = y-2 \rightarrow y = y'+2 \end{cases}$

$$y'+2 = \frac{2(n'+2)+1}{n'+2-2} \Rightarrow y' = \frac{2n'+5}{n'-1} - 2$$

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

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الف) $\begin{cases} 3n+4y=2 \\ n-2y=1 \end{cases} \xrightarrow{\times(-2)} \begin{cases} 3n+4y=2 \\ n-2y=1 \end{cases} \rightarrow 3n+4y=2$

$$19y = -1$$

$$y = -\frac{1}{19} \checkmark \quad n = \frac{14}{19} \checkmark$$

ب) $\begin{cases} 3n+4y=2 \\ n-2y=1 \end{cases}$

$$n = -\frac{14}{-19} = \frac{14}{19} \quad y = \frac{1}{-19} = -\frac{1}{19}$$

لا حل ؟!

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