

۱۹,۵

الف)  $m = \frac{-2-2}{\omega-4} = -\varepsilon \Rightarrow y = -\varepsilon x + b \xrightarrow{|_r^{\varepsilon}} r = -1\varepsilon + b \Rightarrow b = 1\varepsilon \Rightarrow y = -\varepsilon x + 1\varepsilon \checkmark$

ب)  $m = -3 \Rightarrow y = -3x + b \xrightarrow{|_r^{\varepsilon}} r = -1\varepsilon + b \Rightarrow b = 1\varepsilon \Rightarrow y = -3x + 1\varepsilon \Rightarrow y + 3x = 1\varepsilon \checkmark$

ج)  $m = 3 \Rightarrow y = 3x + b \xrightarrow{|_r^{\varepsilon}} r = 1\varepsilon + b \Rightarrow b = -1\varepsilon \Rightarrow y = 3x - 1\varepsilon \checkmark$

د)  $\tan \alpha = m \Rightarrow m = \tan\left(\frac{\pi}{4}\right) \Rightarrow m = \sqrt{3} \Rightarrow y = \sqrt{3}x + b \xrightarrow{|_r^{\varepsilon}} r = \varepsilon\sqrt{3} + b \Rightarrow b = r - \varepsilon\sqrt{3} \Rightarrow y = \sqrt{3}x + r - \varepsilon\sqrt{3} \checkmark$

الف)  $\sqrt{(4x)^2 + (4y)^2} \Rightarrow \sqrt{(2+1)^2 + (3-1)^2} = \sqrt{(3^2 + 4^2)} = \omega \checkmark$

ب)  $d = \frac{|3(2) + 4(3) - 3|}{\sqrt{(3^2 + 4^2)}} = \frac{|1\omega|}{\omega} = 3 \checkmark$

الف)  $2x + 3y = \frac{2+3}{2} \Rightarrow 2x + 3y = \omega \checkmark$

ب)  $d = \frac{|4-4|}{\sqrt{(2^2 + 1^2)}} = \frac{2}{\sqrt{5}} \Rightarrow \frac{2\sqrt{5}}{5} \checkmark$

$\frac{|3x-2y-1|}{\sqrt{3^2+2^2}} = \frac{|2x+3y-3|}{\sqrt{2^2+3^2}} \Rightarrow |3x-2y-1| = |2x+3y-3| \Rightarrow \begin{cases} 3x-2y-1 = 2x+3y-3 \Rightarrow x-5y = -2 \checkmark \\ 3x-2y-1 = -(2x+3y-3) \Rightarrow 5x+y = 4 \checkmark \end{cases}$

$y + 3x = 3 \Rightarrow m = -\frac{1}{3}$   
 $y - 2x = \omega \Rightarrow m = 2$  }  $\tan \alpha = \left| \frac{-\frac{1}{3} - 2}{1 + (-\frac{1}{3})} \right| \Rightarrow \left| \frac{-\omega}{-\omega} \right| = 1 \Rightarrow \alpha = 45^\circ \checkmark$

$$\text{الف) } \sqrt{(3+5)^2 + (-2-5)^2} \Rightarrow \sqrt{(8)^2 + (-7)^2} = 10 \quad \checkmark$$

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$$\text{ب) } M_x = \frac{3-5}{2} \Rightarrow -1 \quad M_y = \frac{-2+5}{2} \Rightarrow 1 \Rightarrow M \begin{vmatrix} -1 & 1 \\ 1 & 1 \end{vmatrix} \quad \checkmark$$

$$\text{الف) } x_G = \frac{3-2-10}{3} \Rightarrow -3, y_G = \frac{1+2-13}{3} = -3 \Rightarrow G \begin{vmatrix} -3 & -3 \\ -3 & -3 \end{vmatrix} \quad \checkmark$$

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$$\text{ب) } \frac{1}{2} \begin{vmatrix} 3 & 1 & 1 \\ -2 & 3 & 1 \\ -10 & -13 & 1 \end{vmatrix} = \frac{1}{2} (9 - 10 + 24 + 30 + 39 + 2) = 51 \quad \checkmark$$

$$\text{الف) } a = \frac{(2x+1)}{5x-3} \Rightarrow y = \frac{-1-2x}{5x-3} \Rightarrow -x = \frac{-y+1}{-5y-3} \Rightarrow x = \frac{y-1}{-5y-3} \Rightarrow y = \frac{1-2x}{+5x+3} \quad \text{دقت!}$$

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$$\text{ب) } y = \frac{2-x+1}{5-x-3} \Rightarrow y = \frac{1-2x}{-5x-3} \quad \checkmark$$

$$\text{ج) } x = \frac{2y+1}{5y-3} \Rightarrow y = \frac{2x+1}{5x-3} \quad \checkmark$$

$$\text{الف) } x' = x-2 \quad y' = y+2 \Rightarrow x = x'+2 \quad y = y'-2 \Rightarrow y'-2 = \frac{2(x'+2)+1}{x'+2-3} \Rightarrow y' = \frac{2x'+5}{x'-1} \quad \checkmark \quad \text{دقت!}$$

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$$\text{ب) } x' = x-2 \quad y' = y-2 \Rightarrow x = x'+2 \quad y = y'+2 \Rightarrow y'+2 = \frac{2(x'+2)+1}{x'+2-3} \Rightarrow y' = \frac{2}{x'} \quad \checkmark$$

$$\text{الف) } \begin{cases} 3x+5y=2 \\ x-5y=1 \end{cases} \xrightarrow{x-3} \begin{cases} 3x+5y=2 \\ -3x+15y=-3 \end{cases} \Rightarrow 19y=-1 \Rightarrow y = \frac{-1}{19} \quad \checkmark, x = \frac{15}{19} \quad \checkmark$$

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$$\text{ب) } x = -\frac{\begin{vmatrix} 5 & 2 \\ -5 & 1 \end{vmatrix}}{\begin{vmatrix} 3 & 5 \\ 1 & -5 \end{vmatrix}} \quad y = \frac{\begin{vmatrix} 3 & 2 \\ 1 & 1 \end{vmatrix}}{\begin{vmatrix} 3 & 5 \\ 1 & -5 \end{vmatrix}} \Rightarrow x = -\frac{15}{-19} \quad y = \frac{1}{-19} \Rightarrow x = \frac{15}{19} \quad y = \frac{-1}{19}$$