

۱۹، ۲۵

الف) $m = \frac{2+2}{4-2} = -2$ $y = -2x + b \rightarrow -2 = -2 \cdot 0 + b \quad b = -2 \quad y = -2x - 2$ ✓

(۲)

ب) $m = -3$ $y - 2 = -3(x - 4)$ $y = -3x + 14$ ✓

ج) $-\frac{1}{2}m = -1 \quad m = 2$ $y - 2 = 2(x - 4)$ $y = 2x - 6$ ✓

د) $m = \tan \alpha = \tan \frac{\pi}{4} = 1$ $y - 2 = 1(x - 4)$ $y = x - 2$ ✓

الف) $\sqrt{(2+1)^2 + (2-1)^2} = \sqrt{9+1} = \sqrt{10}$ ✓

(۱.۷۵)

ب) $\frac{|3 \times 2 + 4 \times 2 - 3|}{\sqrt{9+16}} = \frac{15}{5} = 3$ **دقت!**

الف) $\begin{cases} 2x + 3y = 4 \\ 2x + 3y = 2 \end{cases} \rightarrow 2x + 3y = 0$ ✓

(۲)

ب) $\frac{|4-2|}{\sqrt{4+9}} = \frac{2}{\sqrt{13}}$ ✓

$\frac{|3x-2y-1|}{\sqrt{9+4}} = \frac{|2x+2y-2|}{\sqrt{4+9}}$ $\begin{cases} 3x-2y-1 = 2x+2y-2 \\ 2x-4y = -1 \\ 3x-2y-1 = -2x-2y+2 \\ 5x = 3 \end{cases}$ ✓

(۲)

$m = 2$ $m' = -2$ $\tan \alpha = \left| \frac{2+2}{1-4} \right| = 1 \Rightarrow \alpha = 45^\circ$ ✓

الف) $\sqrt{(3+2)^2 + (-2-4)^2} = \sqrt{25+36} = \sqrt{61}$ ✓

(۱.۷۵)

ب) $\begin{cases} x = \frac{x_A + x_B}{2} = -1 \\ y = \frac{y_A + y_B}{2} = -1 \end{cases} \Rightarrow (-1, -1)$ **دقت!** $\frac{4-2}{2} = 1$

الف) $\begin{cases} x = \frac{3-2-10}{3} = -3 \\ y = \frac{-12+2+1}{3} = -3 \end{cases} \Rightarrow (-3, -3)$ ✓

(۱.۷۵)

ب) $S = \frac{1}{2} \begin{vmatrix} -10 & -2 & 3 \\ -13 & 3 & 1 \\ 1 & 1 & 1 \end{vmatrix} = \frac{1}{2} (-10 \cdot 3 - 2 \cdot 9 - 9 \cdot 2 + 10) = \frac{1}{2} (-30 - 18 - 18 + 10) = \frac{1}{2} (-58) = -29$ **دقت!**

الف) $-y = \frac{2x+1}{4x-2} \Rightarrow y = \frac{-2x-1}{4x-2}$ ✓

ب) $y = \frac{-2x+1}{-4x-2}$ ✓

ج) $\frac{2y+1}{4y-3} = x \Rightarrow y = \frac{-x-1}{4x-2} = \frac{3x+1}{4x-2}$ ✓

(۲)

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

$$\text{11) } x' = x-2 \quad y'-3 = \frac{2x'+4+1}{x'+2-2} \quad y' = \frac{2x'+5}{x'-1} + 3 \quad y' = \frac{2x'+8}{x'-1} \checkmark$$

-9
(2)

$$\rightarrow) x' = x-2 \quad y'+2 = \frac{2x'+7+1}{x'+2-2} \quad y' = \frac{2x'+8}{x'} - 2 \quad y' = \frac{8}{x'} \checkmark$$

-10

$$\text{الف) } \begin{cases} 3x+4y=2 \\ x-2y=1 \end{cases} \quad \begin{cases} 3x+4y=2 \\ 3x-12y=3 \end{cases} \quad \begin{aligned} 16y &= -1 \\ y &= -\frac{1}{16} \end{aligned} \quad x = \frac{14}{16} \checkmark$$

(2)

$$\rightarrow) \quad x = -\frac{4+10}{-12-4} = \frac{14}{16} \quad y = \frac{3-2}{-12-4} = -\frac{1}{16} \checkmark$$