

$$y = -x \wedge -f_n + 1 \wedge$$

$$y = ax + b$$

c) $x + ry = 1 \rightarrow y = \frac{-x + 1}{r}$

$$g) \tan \frac{\pi}{r} = a = \sqrt{r}$$

$$\text{الف) } \sqrt{(r+1)^2 + (r-v)^2} = a \quad \checkmark$$

$$rx + ry = 7, \quad ex + ey = 1 \quad (rx + ry = 7) \times r \Rightarrow ex + ey = 1r$$

الف) معادله وسط $\rightarrow 4x + 4y = \frac{12+1}{2} \rightarrow 4x + 4y = 10 \rightarrow y = -\frac{1}{4}x + \frac{5}{2}$ ✓

ج) $2x + 3y = 7 \xrightarrow{x=0} 3y = 7 \rightarrow \boxed{y = \frac{7}{3}}$ (0, 7/3)

$$x + 4y = 1 \rightarrow x + 4y - 1 = 0 \rightarrow \frac{12 - 1}{\sqrt{14 + 16}} = \frac{11}{\sqrt{30}} = \frac{11}{\sqrt{30}} \checkmark$$

$$r_x + r_y = r / r_x - r_y = 1 \quad \frac{|r_x + r_y - r|}{\sqrt{r^2}} = \frac{|r_x - r_y - 1|}{\sqrt{r^2}}$$

$$\begin{cases} rx + ry - r = rx - ry - 1 \rightarrow x - y = -\frac{1}{r} \checkmark \\ rx + ry - r = ry - rx + 1 \rightarrow 2x + y = \frac{r+1}{r} \checkmark \end{cases}$$

$y - rx = a$ / $y + r'x = r$
 $\boxed{m = r}$ $\boxed{m' = -r}$ $\tan \alpha = \left| \frac{m - m'}{1 + mm'} \right|$
 $\tan \alpha = \left| \frac{r + r'}{1 - r^2} \right| = 1$ $\boxed{\alpha = 45^\circ}$ ✓ (r) -

$$A \begin{vmatrix} r \\ -r \end{vmatrix} \quad B \begin{vmatrix} -a \\ r \end{vmatrix}$$

د) $\sqrt{(\cancel{r+2})^2 + (-r-4)^2} = 10 \quad \checkmark$

$$\rightarrow M\left(\frac{x_1+x_r}{r}, \frac{y_1+y_r}{r}\right) \rightarrow M \begin{vmatrix} -1 \\ +1 \end{vmatrix} \quad \checkmark$$

$$A \begin{vmatrix} r \\ 1 \end{vmatrix} \quad B \begin{vmatrix} -r \\ r \end{vmatrix} \quad C \begin{vmatrix} -10 \\ -1r \end{vmatrix}$$

الف) $\left(\frac{x_1 + x_2 + x_3}{3}, \frac{y_1 + y_2 + y_3}{3} \right)$ مركز ثقل

$$\therefore \frac{1}{r} \begin{vmatrix} r & -r & -10 \\ 1 & r & -1r \\ 1 & 1 & 1 \end{vmatrix} = \frac{1}{r} (9 + 24 - 10 - (-10 - r9 - r))$$

$$\frac{1}{4}(94) = \boxed{23.5} \quad \checkmark$$

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

$$\text{الف) } y = \frac{-2x-1}{4x-3} \quad \text{ب) } y = \frac{1-2x}{-4x-3} \quad \text{ج) } x = \frac{2y+1}{4y-3} \rightarrow y = \frac{2x+1}{4x-3}$$

(1, 75)

$$\text{د) } -x = \frac{-2y+1}{-4y-3} \rightarrow x = \frac{-2y+1}{4y+3} \rightarrow y = \frac{-2x+1}{4x+3} \quad \text{دقت!}$$

$$y = \frac{2x+1}{x-3} \quad x' = x-3 \quad y+3 = \frac{2x-3+1}{x-3-3} \rightarrow y+3 = \frac{2x-2}{x-6} = \frac{2(x-1)}{x-6}$$

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(5, 5)

$$\text{ب) } x' = x-3 \quad y-2 = \frac{2x-2+1}{x-3} \rightarrow y = \frac{2x-5+2x-1}{x-3} = \frac{4x-3}{x-3}$$

$$\begin{cases} 2x+4y=3 \\ x-5y=1 \end{cases}$$

$$x = -\frac{\begin{vmatrix} 3 & 4 \\ 1 & -5 \end{vmatrix}}{\begin{vmatrix} 2 & 4 \\ 1 & -5 \end{vmatrix}} = \frac{14}{19}$$

$$y = \frac{\begin{vmatrix} 1 & 3 \\ 2 & 4 \end{vmatrix}}{\begin{vmatrix} 2 & 4 \\ 1 & -5 \end{vmatrix}} = -\frac{1}{19}$$

$$\begin{cases} 2x+4y=3 \rightarrow 2x+4y=3 \\ x-5y=1 \rightarrow 2x-10y=2 \end{cases} \Rightarrow \begin{cases} 2x+4y=3 \\ 2x-10y=2 \end{cases} \Rightarrow \begin{cases} -14y=1 \\ y = -\frac{1}{14} \end{cases}$$

$$-\frac{1}{14} + 3x = 3 \Rightarrow 3x = \frac{43}{14} \Rightarrow x = \frac{43}{42}$$

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

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$$\begin{cases} x' = x-2 \rightarrow x = x'+2 \\ y' = y+3 \rightarrow y = y'-3 \end{cases} \Rightarrow y'-3 = \frac{2(x'+2)+1}{x'+2-3}$$

(9)

الف)

$$y' = \frac{5x'+2}{x'-1}$$

$$y' = \frac{7}{x'}$$

ب) ضربه مورد قبل