

الف) $y - 2 = -2(x - 2) \rightarrow y = -2x + 10$

$m = \frac{\Delta y}{\Delta x} = \frac{-2-2}{0-2} = -2$

ب) $2y + 4x = -1 \rightarrow m = -\frac{1}{2} \rightarrow y - 2 = -\frac{1}{2}(x - 2) \rightarrow y = -\frac{x}{2} + \frac{5}{2} \rightarrow 3y = -x + 10$
 $3y + x = 10$

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

د) $\frac{1}{\sqrt{2}} = \frac{1}{\sqrt{2}} \rightarrow y - 2 = \frac{1}{\sqrt{2}}(x - 2) \rightarrow y = \frac{1}{\sqrt{2}}x - \frac{2}{\sqrt{2}} + 2$

$\sqrt{2^2 + (-2)^2} = \sqrt{1+9} \Rightarrow 8$

الف) $\frac{1}{\sqrt{2}}$ و $\frac{1}{\sqrt{2}}$

$\frac{1 \cdot (2 + 2(2)) - 2}{\sqrt{2^2 + 2^2}} = \frac{1 \cdot 8}{8} = 2$

ب) $3x + 2y - 10 = 0$

$2x + 3y = 5$, $2x + 3y = 1$
 الف) $2x + 3y = \frac{12+1}{2} \rightarrow \boxed{2x + 3y = 10}$

ب) $2x + 3y = 5 \times 2 \rightarrow 2x + 3y = 10$ $\frac{|c-c'|}{\sqrt{a^2+b^2}} = \frac{|12-1|}{\sqrt{2^2+3^2}} = \frac{2}{\sqrt{13}}$

$3x - 2y = 1$, $2x + 3y = 5$

$\frac{|3x - 2y - 1|}{\sqrt{9+4}} = \frac{|2x + 3y - 5|}{\sqrt{4+9}} \Rightarrow \frac{|3x - 2y - 1|}{\sqrt{13}} = \frac{|2x + 3y - 5|}{\sqrt{13}}$
 $3x - 2y - 1 = 2x + 3y - 5 \rightarrow x - 5y = -4$
 $3x - 2y - 1 = -(2x + 3y - 5) \rightarrow 5x + y = 6$

$3x - 2y + 3x = 2$, $y - 2x = 8 \rightarrow 2 = m$

$\tan a = \left| \frac{m-m'}{1+mm'} \right| \rightarrow \left| \frac{2-(-3)}{1+2(-3)} \right| = \left| \frac{5}{-5} \right| = 1 \rightarrow \epsilon d \rightarrow a = \frac{\pi}{4}$

الف) $\sqrt{5^2 + (-1)^2} = \sqrt{25+1} = \sqrt{26} = 10$

ب) $\frac{-2+3}{2} = \frac{1}{2} = -1$, $\frac{-2+3}{2} = 1$, $\begin{vmatrix} -1 \\ 1 \end{vmatrix}$

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$$| -1 \ 2 \ 3 | \quad | -2 \ 1 \ 3 |$$

$$\text{الف) } \frac{-10 + 2 + 3}{3} = -\frac{5}{3} = -\frac{5}{3} \quad -\frac{12 + 3 + 9}{3} = -\frac{24}{3} = -8 \quad \left(\frac{1}{-3} \right)$$

$$\text{ب) } \left| \begin{array}{ccc|c} -10 & -12 & 1 & 1 \\ -2 & 3 & 1 & 1 \\ 3 & 1 & 1 & 1 \end{array} \right| \rightarrow -30 - 2 - 29 - 9 + 10 - 27 = -97 \quad \left(\frac{1}{-3} \right)$$

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

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

$$\text{د) } -u = \frac{-xy+1}{-xy-2} \rightarrow y = \frac{1-x}{x+2}$$

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

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

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

$$\text{ب) } \left(\frac{1}{-3} \right) \quad y = \frac{x+1}{x-2}$$

$$\begin{cases} u' = x-2 \rightarrow u = x'+2 \\ y' = y-2 \rightarrow y = y'+2 \end{cases} \rightarrow y' + 2 = \frac{2(x'+2)+1}{x'+2-2} \rightarrow y' = \frac{2x'+5}{x'} \quad \left(\frac{1}{-3} \right)$$

$$\begin{cases} 3x + 5y = 2 \\ x - 8y = 1 \end{cases}$$

$$\text{الف) } \begin{cases} 3x + 5y = 2 \\ -3x + 10y = -3 \end{cases}$$

$$3x + 5\left(-\frac{1}{19}\right) = 2 \rightarrow 3x = 2 + \frac{5}{19} \rightarrow x = \frac{39}{19} \rightarrow y = \frac{16}{19}$$

$$\left| \begin{array}{cc|c} 3 & 5 & 2 \\ -3 & 10 & -3 \end{array} \right| \rightarrow 19y = -1 \rightarrow y = -\frac{1}{19} \rightarrow x =$$

$$\left| \begin{array}{cc|c} 3 & 5 & 2 \\ -3 & 10 & -3 \end{array} \right| \rightarrow x = -\frac{1}{19}$$

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