

الف) $y - 2 = -2(x - 4) \rightarrow y = -2x + 10$ ✓

$m = \frac{\Delta y}{\Delta x} = \frac{-2-2}{0-4} = -1$

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

ج) $u + 3y = 1 \rightarrow \frac{6}{2} \rightarrow y - 2 = \frac{1}{3}(x - 4) \rightarrow y = \frac{x}{3} + \frac{2}{3}$ ✓

د) $\frac{1}{x} = 5 \rightarrow x = \frac{1}{5} \rightarrow y - 2 = \sqrt{5}(x - 4) \rightarrow y = \sqrt{5}x - 4\sqrt{5} + 2$ ✓

جواب صفی اخذ...

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

$\frac{1^2 + 4^2 - 2^2}{\sqrt{2^2 + (-2)^2}} = \frac{17}{\sqrt{10}}$ ✓

الف) $\sqrt{1^2 + 4^2} = \sqrt{17}$ ✓

ب) $u + 2y - 3 = 0$ ✓

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

الف) $2x + 3y = 12 + 1 \rightarrow 2x + 3y = 13$ ✓

ب) $2x + 3y = 5 \times 2 \rightarrow 2x + 3y = 10$ ✓

$\frac{|c - c'|}{\sqrt{a^2 + b^2}} = \frac{|12 - 1|}{\sqrt{2^2 + 3^2}} = \frac{11}{\sqrt{13}}$ ✓

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

$\frac{|3x - 2y - 1|}{\sqrt{9 + 4}} = \frac{|2x + 3y - 3|}{\sqrt{4 + 9}} \Rightarrow |3x - 2y - 1| = |2x + 3y - 3|$ ✓

$3x - 2y - 1 = 2x + 3y - 3 \Rightarrow x - 5y = -2$ ✓

$3x - 2y - 1 = -(2x + 3y - 3) \Rightarrow 5x + y = 4$ ✓

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

$\tan \alpha = \left| \frac{m - m'}{1 + mm'} \right| \Rightarrow \left| \frac{3 - (-3)}{1 + 3(-3)} \right| = \left| \frac{6}{-8} \right| = \frac{3}{4} \Rightarrow \alpha = \frac{\pi}{4}$ ✓

الف) $\sqrt{3^2 + (-1)^2} = \sqrt{10} = 10$ ✓

ب) $\frac{-2 + 3}{2} = \frac{1}{2} = 1$ ✓

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

الف) $\frac{-10 + 2 + 3}{3} = -\frac{5}{3} = -1\frac{2}{3}$ $\frac{-12 + 2 + 3}{3} = -\frac{7}{3} = -2\frac{1}{3}$ $\left(\begin{smallmatrix} 1 & -2 \\ 1 & -3 \end{smallmatrix} \right) \checkmark$

ب) $\left(\begin{smallmatrix} 1 & -2 & 3 \\ -2 & 1 & 1 \\ 3 & 1 & 1 \end{smallmatrix} \right) \rightarrow -20 - 2 - 29 - 9 + 10 - 27 = -97 \neq 0$ $\left(\begin{smallmatrix} 1 & -2 \\ 1 & -3 \end{smallmatrix} \right) \checkmark$

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

الف) $-y = \frac{x+1}{x-2} \checkmark$ ب) $y = \frac{-x+1}{-x-2} \checkmark$ ج) $x = \frac{y+1}{y-2} \rightarrow y = \frac{x+1}{x-2} \checkmark$

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

$$y = \frac{x+1}{x-2} \quad \left(\begin{smallmatrix} 1 & -2 \end{smallmatrix} \right)$$

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

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

ب) $\left(\begin{smallmatrix} 1 & -2 \\ 1 & -3 \end{smallmatrix} \right) \quad y = \frac{x+1}{x-2}$

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

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

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

$3x + 5\left(-\frac{1}{19}\right) = 2 \rightarrow 3x = 2 + \frac{5}{19} \rightarrow x = \frac{39}{19} \rightarrow x = \frac{14}{19} \checkmark$

$\left(\begin{smallmatrix} 3 & 5 \\ -3 & 10 \end{smallmatrix} \right) \rightarrow y = -\frac{1}{19} \rightarrow x =$

$\left(\begin{smallmatrix} 3 & 5 \\ -3 & 10 \end{smallmatrix} \right) \rightarrow x = -\frac{1}{19} \rightarrow y =$

$\left(\begin{smallmatrix} 3 & 5 \\ -3 & 10 \end{smallmatrix} \right) \rightarrow \frac{3(-1) - (-10)}{-10 - 9} = \frac{1 \times -1}{-19} \rightarrow \left(\begin{smallmatrix} 1 & 5 \\ 1 & 10 \end{smallmatrix} \right) \rightarrow \frac{3-2}{-10-9} \rightarrow -\frac{1}{19}$

$$m = -3$$

ا. ب.

$$(4, 2) \rightarrow y - 2 = -3(x - 4) \rightarrow y = -3x + 14$$

$$m = -\frac{1}{3} \quad m' = 3$$

ج. زمان دو خط به هم عمودند. حاصلضرب

شیب هایشان ۱- شود

$$(4, 2) \rightarrow y - 2 = 3(x - 4) \rightarrow y = 3x - 10$$

$$m = \tan \frac{\pi}{3} = \sqrt{3}$$

د

$$(4, 2) \rightarrow y - 2 = \sqrt{3}(x - 4) \rightarrow y = \sqrt{3}x - 4\sqrt{3} + 2$$