

1- (الف) $\frac{2-(-2)}{2-5} = \frac{4}{-3} = -\frac{4}{3} \rightarrow x = -\frac{4}{3}x + b$ $x = -\frac{4}{3}x + 18$ (الف)

$\begin{cases} ax+b-x \\ -4x-1-2x \end{cases} \rightarrow x = -\frac{4}{3}x + b \rightarrow x = -\frac{4}{3}x - 10$ (ب)

$\frac{1}{-4} = \frac{a}{-4} \rightarrow 2a = 4 \rightarrow a = 2$

$\frac{2}{3} \rightarrow 90^\circ \rightarrow \tan 90^\circ \rightarrow \sqrt{3} \rightarrow x = \sqrt{3}x + b$
 $x = \sqrt{3}x + 2 - 2\sqrt{3}$

(ج) $\rightarrow x = -\frac{1}{\sqrt{3}}x + \frac{1}{\sqrt{3}} \rightarrow x = \frac{1}{\sqrt{3}}x + b$
 $x = \frac{1}{\sqrt{3}}x - 10$ (د)

2- (الف) $(\frac{2-(-2)}{2-5})^2 + (\frac{2-(-2)}{2-5})^2 \rightarrow \sqrt{4+9} = 5$ (ب) $\frac{|4+14-13|}{\sqrt{14+9}} = \frac{15}{5} = 3$ (ج)

$2(2x+5x=4) \rightarrow 2x+9x=12 \rightarrow 11x=12 \rightarrow x = \frac{12}{11}$
 $2x+9x=12 \rightarrow 11x=12 \rightarrow x = \frac{12}{11}$ (الف) $\frac{|12-11|}{\sqrt{14+9}} = \frac{1}{5\sqrt{13}} = \frac{2}{\sqrt{13}}$ (ب)

$\begin{cases} 2x+9x=12 \\ 2x-4x=1 \end{cases} \rightarrow \begin{cases} 11x=12 \\ -2x=1 \end{cases} \rightarrow \frac{11x}{-2} = \frac{12}{1} \rightarrow x = -\frac{12}{2} = -6$
 $\frac{|2x+9x-12|}{\sqrt{14+9}} = \frac{|11x-12-1|}{\sqrt{13}} = \frac{|11x-13|}{\sqrt{13}}$
 $2x+9x-12 = 11x-13 \rightarrow 11x-13 = 11x-13$
 $11x-13 = 11x-13 \rightarrow 0x = 0$

$\tan \alpha = \frac{2-(-2)}{1-5} = \frac{4}{-4} = -1 \rightarrow \alpha = 135^\circ$

$(\frac{2-(-2)}{2-5})^2 + (\frac{2-(-2)}{2-5})^2 \rightarrow \sqrt{4+9} = 5$ (الف) $(\frac{-2-1}{-1-5}, \frac{2-1}{-1-5}) \rightarrow (-1, 1)$ (ب)

$\begin{vmatrix} 1 & 1 & 1 \\ -2 & 3 & 1 \\ -10 & -13 & 1 \end{vmatrix} \times \frac{1}{p} =$

(ج) $x = \frac{12-13-10}{-2} = -\frac{1}{2}$ (الف) $(-1, -1)$

$x' = x-2 \rightarrow x = x'+2$ (ب) $-x = -\frac{2}{3}x + 1 \rightarrow 2x + 3x = -2x + 3 \rightarrow 5x = 1 \rightarrow x = \frac{1}{5}$
 $x' = x-2 \rightarrow x = x'+2$ (ج) $x' = \frac{1}{5}(x'+2) + 1 \rightarrow x' = \frac{1}{5}x' + \frac{2}{5} + 1 \rightarrow x' = \frac{1}{5}x' + \frac{7}{5} \rightarrow \frac{4}{5}x' = \frac{7}{5} \rightarrow x' = \frac{7}{4}$
 $x' = \frac{7}{4}$ (الف) $x = \frac{7}{4} + 2 = \frac{15}{4}$ (ب)

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

$x = \frac{2x'+5}{x'-1} + 2$ (الف) $x' = \frac{1(x'+2)+1}{x'+2-1} + 2$ (ب)

$$\begin{cases} 7x + 2y = 2 \\ x - 4y = 1 \end{cases} \rightarrow \begin{cases} 7x + 2y = 2 \\ 7x - 10y = 7 \end{cases}$$

$$12y = -1 \rightarrow y = -\frac{1}{12}, x = \frac{17}{12}$$

$$\begin{cases} 7x + 2y = 2 \\ x - 4y = 1 \end{cases} \rightarrow x = -\frac{4 - (-10)}{-10 - 7} \rightarrow x = \frac{14}{-17}, y = \frac{3 - 1}{-10 - 7} \rightarrow y = \frac{2}{-17} \quad (b)$$

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