

الف)  $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-2 - 2}{5 - 4} = -4 \Rightarrow y - y_1 = m(x - x_1) = y + 2 = -4(x - 5)$

$y = -4x + 18$  ب)  $2y + 4x = -1 \rightarrow 2y = -4x - 1 \Rightarrow y = -2x - \frac{1}{2}$

مختصات پارس صفحه  $y - y_1 = m(x - x_1) \rightarrow y - 2 = -3(x - 4) \Rightarrow y = -3x + 14$

ج)  $3y = -x + 1 \Rightarrow y = -\frac{1}{3}x + \frac{1}{3} \Rightarrow m' = 3 \Rightarrow y - 2 = 3(x - 4) = y = 3x - 10$

الف)  $\sqrt{(\Delta y)^2 + (\Delta x)^2} \Rightarrow$

$\sqrt{(2+1)^2 + (3-7)^2} = \sqrt{9+16} = 5$

ب)  $\frac{|ax+by+c|}{\sqrt{a^2+b^2}} \Rightarrow$

$\frac{9+12-3}{\sqrt{9+16}} = \frac{18}{5} = 3.6$

الف) استارایب خطا برابری کنیم

$4x + 6y = 18 \Rightarrow 4x + 6y = \frac{18+12}{2}$

$4x + 6y = 15$  ب)  $2x + 3y = 5$

ب)  $\frac{|c-c'|}{\sqrt{a^2+b^2}}$   $4x + 3y - 4 = 0$

$2x + 4y - 6 = 0$   
 $\frac{|-6+4|}{\sqrt{4+9}} = \frac{2}{\sqrt{13}}$

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

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

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

$y = -\frac{3}{5}x + \frac{2}{5}$   $y = \frac{2}{5}x + \frac{4}{5}$   $\tan \alpha = \left| \frac{m-m'}{1+mm'} \right| = \left| \frac{2+3}{1-6} \right| = 1 \Rightarrow \alpha = 45^\circ$

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

الف)  $\sqrt{\Delta y^2 + \Delta x^2} \Rightarrow$

$$\sqrt{(3+5)^2 + (-2-4)^2} = \sqrt{64 + 36} = 10$$

ب)  $B \begin{vmatrix} -2 \\ \epsilon \end{vmatrix} A \begin{vmatrix} 3 \\ -2 \end{vmatrix}$

$$M \begin{vmatrix} \frac{-2+3}{2} \\ \frac{\epsilon-2}{2} \end{vmatrix} \Rightarrow M \begin{vmatrix} -1 \\ 1 \end{vmatrix}$$

الف)  $\begin{vmatrix} -10 & -2 & 3 \\ -13 & 3 & 1 \end{vmatrix}$

مرکز قتل  $x = \frac{\sum x}{3} = \frac{-10 - 2 + 3}{3} = -3$

مرکز  $y = \frac{\sum y}{3} = \frac{-13 + 3 + 1}{3} = -3$

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

$\left( \frac{-10 + 9 + 24 + 39 + 30 + 2}{2} \right) \times \frac{1}{2} = 13$

الف)  $-y = \frac{2x+1}{\epsilon x-3} \Rightarrow$   
 $y = \frac{-2x-1}{\epsilon x-3}$

ب)  $y = \frac{-2x+1}{-\epsilon x-3}$

ج)  $x = \frac{2y+1}{\epsilon y-3}$   
 $y = \frac{3x+1}{\epsilon x-2}$

د)  $-x = \frac{-2y+1}{-\epsilon y-3} \Rightarrow$   
 $y = \frac{1-3x}{\epsilon x+2}$

الف)  $x' = x - 2 \Rightarrow x = x' + 2$   
 $y' = y + 3 \Rightarrow y = y' - 3$

$$y' - 3 = \frac{2(x' + 2) + 1}{(x' + 2) - 3} \Rightarrow y' = \frac{2x' + 5}{x' - 1} + 3$$

ب)  $x' = x - 3 \Rightarrow x = x' + 3$   
 $y' = y - 2 \Rightarrow y = y' + 2$

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

$$y' = \frac{2x' + 7}{x'} - 2$$

الف)  $\begin{cases} 3x + 4y = 2 \\ (x - 5y = 1) \times -3 \\ -2x + 15y = -3 \end{cases}$   
 $19y = -1 \Rightarrow y = \frac{-1}{19}$   
 $x = \frac{14}{19}$

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

$$x = \frac{14}{19}$$

$$y = \frac{-1}{19}$$