

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - 2}{1 - 2} = 1$$

$$y = -x + 1$$

(الف)

$$-1 + 1 = 0 \quad -1 + 2 = 1$$

$$2y = -4x + 1$$

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

(ب) خط موازی

$$-2x + 1 = 1$$

$$-2x = 0 \Rightarrow x = 0$$

$$m = 2$$

$$y = -2x + 1$$

$$y = -2x + 1$$

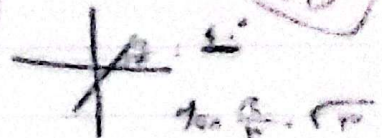
$$3y = 1 - x$$

$$y = \frac{1-x}{3} \Rightarrow m = -\frac{1}{3}$$

خط موازی

$$m' = 3$$

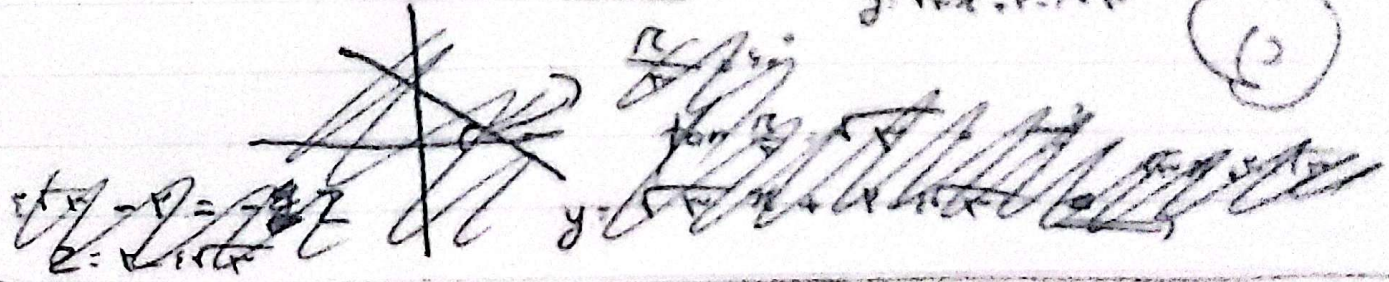
$$y = 3x - 1$$



$$y = 3x + b$$

$$1 = 3 + b \Rightarrow b = -2$$

$$y = 3x - 2$$



$$x - 1 = 3$$

$$x = 4$$

$$\sqrt{3^2 + 1^2} = 2$$

(د)

اصلی

$$3x + (y - 1) = 0$$

$$|(3, 1) \cdot (1, -1)| = 2$$

$$\sqrt{9 + 1} = \sqrt{10}$$

(ع)

$$\frac{2}{\sqrt{10}} = \frac{2\sqrt{10}}{10} = \frac{\sqrt{10}}{5}$$

$$2x + 4y = 1$$

$$m = -\frac{2}{4}$$

۳- الفضا باجهت بردار  
و عرضاً به سمت راست

$$2x + 4y = 12$$

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

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

$$\frac{\frac{1}{2} + \frac{1}{2}}{2} = \frac{1}{2}$$

$$\frac{|C - C'|}{\sqrt{a^2 + b^2}} = \frac{4}{\sqrt{20}}$$

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

$$2x + 4y = 10 \rightarrow C \text{ و } C'$$

(ب) یک خط از این دو خط موازی

$$(x, 0) + (0, y) = 4$$

$$y = 4$$

$$\begin{vmatrix} 0 \\ 4 \end{vmatrix}$$

$$\frac{(8, 0) + (0, 4) = 1}{\sqrt{a^2 + b^2}}$$

$$\frac{4}{\sqrt{20}} = \sqrt{\frac{1}{5}}$$

$$\sqrt{\frac{1}{5}}$$

$$mx + ny = p$$

$$mx + ny = 1$$

۳

$$|ax + by + c|$$

$$|a'x + b'y + c'|$$

$$\frac{|mx + ny - 1|}{\sqrt{m^2 + n^2}} = \frac{|mx + ny - p|}{\sqrt{m^2 + n^2}}$$

$$\sqrt{a^2 + b^2}$$

$$\sqrt{a'^2 + b'^2}$$

$$\Rightarrow \sqrt{1/5}$$

$$\sqrt{1/5}$$

$$|mx + ny - 1| = |mx + ny - p| \Rightarrow x - y = -1 \quad (1)$$

$$|mx + ny - 1| = |mx + ny - p| \Rightarrow x - y = -1 \quad (2)$$

$$y = 2x + 0$$

$$y = -2x + 3$$

$$90^\circ$$

$$\tan \alpha = \left| \frac{m - m'}{1 + mm'} \right|$$

$$\left| \frac{2 - (-2)}{1 + -4} \right| = \left| \frac{4}{-3} \right| = \left| -\frac{4}{3} \right| = 1$$

• note

$$\tan \alpha = 1 = 45^\circ$$

$$\sqrt{\lambda^2 + 9} = 10$$

(w) 9

$$\frac{-9 + \lambda}{\lambda} = -1$$

$$\frac{\lambda - 9}{\lambda} = -1$$

(w)

$$\begin{vmatrix} -1 \\ 1 \end{vmatrix}$$

$$\frac{-10 - \lambda + \lambda}{\lambda} = \frac{-10}{\lambda} = -10$$

$$\begin{vmatrix} -\lambda \\ -\lambda \end{vmatrix}$$

(w) 10

$$\frac{-10 + \lambda + 1}{\lambda} = -10$$

$$\frac{1}{\lambda} \begin{vmatrix} -10 & -\lambda & \lambda \\ -10 & \lambda & 1 \\ 1 & 1 & 1 \end{vmatrix} = (-10 - \lambda^2 - \lambda) - (9 - 10 + \lambda^2)$$

(w)

$$\frac{-10 - \lambda^2 - \lambda}{\lambda} = \frac{-10}{\lambda} = -10$$

$$|-10| = 10$$

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

۱- الف) دستگاه معادلات

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

ب)

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

ج) جای  $x$  در معادله اول

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

د) ... دستگاه معادلات

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

۹- الف)

$$y = \frac{3x-2}{x-2} - 2 \Rightarrow y = \frac{-x+12}{x-2}$$

$$y-2 = \frac{3(x-2)+1}{(x-2)-2} \Rightarrow y = \frac{3x-5}{x-4} + 2 \Rightarrow y = \frac{5x-17}{x-4}$$

ب)

$$7x + 2y = 2$$

$$x - 5y = 1$$

$$7x + 2y = 2$$

$$7x - 15y = 7$$

$$\Rightarrow 1 = -17y$$

$$y = -\frac{1}{17}$$

$$\Rightarrow \frac{9}{17} + x = 1 \Rightarrow x = \frac{8}{17}$$

$$x = + \frac{8}{17} \Rightarrow 8 - (-1)$$

$$y = \frac{3-2}{-17} = -\frac{1}{17}$$

ب)

$$\frac{8}{17}$$

$$-\frac{1}{17}$$