

۲۵ علامت نوشتی!

$$m = \frac{y_B - y_A}{x_B - x_A} = \frac{2 - (-2)}{2 - 8} = -\frac{4}{6} = -\frac{2}{3} \rightarrow y = -\frac{2}{3}x + b \xrightarrow{\text{ب}} b = 18 \rightarrow y = -\frac{2}{3}x + 18 \quad \text{الف) } \checkmark$$

$$2y + 4x = -1 \rightarrow m = -\frac{1}{2} \rightarrow y = -\frac{1}{2}x + b \xrightarrow{\text{ب}} b = 14 \rightarrow y = -\frac{1}{2}x + 14 \quad \text{ب) } \checkmark$$

$$x + 2y = 1 \rightarrow m' = -\frac{1}{2} \rightarrow m m' = -1 \rightarrow m = \frac{1}{2} \rightarrow y = \frac{1}{2}x + b \xrightarrow{\text{ب}} y = \frac{1}{2}x - 10 \quad \text{ج) } \checkmark$$

$$\tan \alpha = \left| \frac{m - m'}{1 + m m'} \right| \rightarrow \tan \frac{\pi}{3} = \left| \frac{0 - m}{1} \right| \rightarrow \sqrt{3} = \left| \frac{0 - m}{1} \right| \rightarrow m = \sqrt{3} \rightarrow y = \sqrt{3}x + (-\frac{1}{\sqrt{3}} + 1) \quad \text{د) } \checkmark$$

$$d = \sqrt{(y_A - y_B)^2 + (x_A - x_B)^2} \rightarrow d = \sqrt{(2 - (-1))^2 + (2 - 6)^2} = \sqrt{9 + 16} = 5 \quad \text{الف) } \checkmark$$

$$\begin{vmatrix} 2 & 4 \\ 2 & 4 \end{vmatrix} \quad 2x + 4y - 3 = 0 \rightarrow d = \frac{|ax_0 + by_0 + c|}{\sqrt{a^2 + b^2}} = \frac{|2x_2 + 4x_2 - 3|}{\sqrt{4 + 16}} = \frac{15}{\sqrt{20}} = \frac{15}{2\sqrt{5}} = \frac{3\sqrt{5}}{2} \quad \text{ب) } \checkmark$$

$$2x + 4y = 18 \quad 2x + 4y = 12$$

$$ax + by = \frac{c' + c}{r} \rightarrow 2x + 4y = 10 \quad \checkmark \quad \text{الف) } \checkmark$$

$$d = \frac{|c - c'|}{\sqrt{a^2 + b^2}} \rightarrow d = \frac{|12 - 18|}{\sqrt{2^2 + 4^2}} = \frac{6}{\sqrt{20}} = \frac{3}{\sqrt{5}} = \frac{3\sqrt{5}}{5} \quad \text{ب) } \checkmark$$

$$2x + 4y = 3 \quad 2x - 2y = 1$$

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

$$|2x - 2y - 1| = |2x + 4y - 3|$$

$$\rightarrow 2x - 2y - 1 = 2x + 4y - 3 \rightarrow x - 3y = -1 \quad \checkmark$$

$$\rightarrow 2x - 2y - 1 = -(2x + 4y - 3) \rightarrow 4x + 2y = 4 \rightarrow 2x + y = 2 \quad \checkmark$$

$$\left. \begin{array}{l} y + 2x = 3 \rightarrow m = -\frac{1}{2} \\ y - 2x = 8 \rightarrow m = \frac{1}{2} \end{array} \right\} \rightarrow \tan \alpha = \left| \frac{2 - (-\frac{1}{2})}{1 + (-\frac{1}{2})} \right| = \left| \frac{\frac{5}{2}}{\frac{1}{2}} \right| = 5 \quad \text{الف) } \checkmark$$

$$\rightarrow \alpha = 68^\circ \quad \checkmark \quad \text{زاویه حاده}$$

$$\rightarrow \alpha = 112^\circ \quad \checkmark \quad \text{زاویه باز}$$

$$A = \begin{vmatrix} 1 & 1 \\ 1 & -1 \end{vmatrix} \quad B = \begin{vmatrix} -8 & 1 \\ 1 & 1 \end{vmatrix} \rightarrow d = \sqrt{(-8-1)^2 + (1+1)^2} = \sqrt{8^2 + 4^2} = 10 \quad \checkmark \quad \text{الف}$$

$$M \begin{vmatrix} \frac{-8+1}{2} \\ \frac{1-1}{2} \end{vmatrix} = \begin{vmatrix} -1 \\ 1 \end{vmatrix} \quad \checkmark \quad M = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2} \right) \quad \text{نقطة وسط وتر}$$

$$\begin{vmatrix} -1 & -1 & 1 \\ -1 & 1 & 1 \\ 1 & 1 & 1 \end{vmatrix} \rightarrow \begin{cases} x_G = \frac{x_1+x_2+x_3}{3} = \frac{-9}{3} = -3 \\ y_G = \frac{y_1+y_2+y_3}{3} = \frac{-9}{3} = -3 \end{cases} \rightarrow G: \begin{pmatrix} -3 \\ -3 \end{pmatrix} \quad \checkmark \quad \text{الف}$$

$$\begin{vmatrix} 1 & 1 & 1 \\ -1 & 1 & 1 \\ -1 & -1 & 1 \end{vmatrix} \rightarrow S = \frac{1}{2} (1+1-1 - (1-1-1)) = 1 \quad \checkmark \quad \text{ب}$$

$$y = \frac{r_{n+1}}{\varepsilon_n - r} \rightarrow y = \frac{r_{n+1}}{\varepsilon_n - r} \rightarrow y = \frac{-r_{n+1}}{\varepsilon_n - r} \quad \checkmark \quad \text{الف}$$

$$y = \frac{-r_{n+1}}{-\varepsilon_n - r} \rightarrow y = \frac{r_{n+1}}{\varepsilon_n + r} \quad \checkmark \quad \text{ب}$$

$$n = \frac{r_{y+1}}{\varepsilon_y - r} \rightarrow y = \frac{-r_{n+1}}{r_{n+1} - r} = \frac{r_{n+1}}{\varepsilon_n - r} \quad \checkmark \quad \text{ج}$$

$$-n = \frac{-r_{y+1}}{-\varepsilon_y - r} \rightarrow n = \frac{-r_{y+1}}{\varepsilon_y + r} \rightarrow y = \frac{-r_{n+1}}{\varepsilon_n + r} \quad \checkmark \quad \text{د}$$

$$\begin{cases} x' = x - r \\ y' = y + r \end{cases} \rightarrow \begin{cases} x = x' + r \\ y = y' - r \end{cases} \rightarrow y' - r = \frac{r(x' + r) + 1}{(x' + r) - r} \rightarrow y' = \frac{r_{n'+1} + 8}{n' - 1} + r = \frac{8n' + 1}{n' - 1} \quad \checkmark \quad \text{الف}$$

$$\begin{cases} x' = x - r \rightarrow x = x' + r \\ y' = y - r \rightarrow y = y' + r \end{cases} \rightarrow y' + r = \frac{r(x' + r) + 1}{n'} \rightarrow y' = \frac{r}{n'} \quad \checkmark \quad \text{ب}$$

$$\begin{cases} rx + \varepsilon y = 1 \\ x - \delta y = 1 \end{cases} \rightarrow \begin{cases} rx + \varepsilon y = 1 \\ -rx + 18y = -3 \end{cases} \rightarrow 19y = -1 \rightarrow y = -\frac{1}{19} \quad \checkmark \quad \text{الف}$$

$$x = -\frac{(f_{x1}) - (-\delta x_2)}{(r_{x-8}) - (f_{x1})} = -\frac{1f}{-19} = \frac{1\varepsilon}{19} \quad \checkmark \quad \left\{ \begin{aligned} y &= \frac{(r_{x1}) - (1x_2)}{(r_{x-8}) - (f_{x1})} = \frac{1}{-19} = -\frac{1}{19} \end{aligned} \right. \quad \checkmark \quad \text{ب}$$