

$$\omega \rightarrow \begin{vmatrix} 1 & 0 \\ r & -r \end{vmatrix} \rightarrow \frac{r+r}{r-0} = \frac{r}{-1} = -r \quad y = -rx + 11$$

$$b) \quad ry + 4m = -1 \quad \begin{vmatrix} 1 & 0 \\ r & -r \end{vmatrix} \rightarrow y = -rx + b \rightarrow r = -1r + \boxed{11} \rightarrow y = -rx + 11$$

$$c) \quad \lambda + ry = 1 \rightarrow ry = -\lambda + 1 \rightarrow y = rx + b \xrightarrow{\begin{vmatrix} 1 & 0 \\ r & -r \end{vmatrix}} r = 1r + b \rightarrow y = rx - 1$$

$$\hookrightarrow -\frac{1}{r} \times r = -1$$

$$d) \rightarrow \frac{\pi}{4} = 45^\circ \rightarrow \tan 45^\circ = \sqrt{r} \rightarrow y = \sqrt{r}x + b \rightarrow r = r\sqrt{r} + (r - r\sqrt{r}) \rightarrow y = x\sqrt{r} + r - r\sqrt{r}$$

$$\omega \rightarrow \begin{vmatrix} 1 & 1 \\ r & -1 \end{vmatrix} \rightarrow \sqrt{(r+1)^2 + (-1-r)^2} = \sqrt{r^2 + r^2} = \underline{\underline{\omega}}$$

$$b) \rightarrow rx + ry = r \rightarrow rx + ry - r = 0 \rightarrow \frac{|ax+by+c|}{\sqrt{a^2+b^2}} = \frac{|r(r) + r(r) - r|}{\sqrt{r^2+r^2}} = \frac{|0|}{\omega} = \underline{\underline{r}}$$

$$\omega \rightarrow rx + ry - 4 = 0 \quad rx + ry - 1 = 0$$

$$\begin{cases} rx + ry - 4 = 0 \\ rx + ry - 1 = 0 \end{cases} \rightarrow c'' = \frac{-4-r}{r} = -1 \Rightarrow \underline{\underline{rx + ry - 1 = 0}}$$

$$b) \rightarrow \frac{|r+4|}{\sqrt{r^2+r^2}} = \frac{\frac{r}{\sqrt{1r}}}{\frac{r}{\sqrt{1r}}}$$

$$\begin{cases} rx - ry = 1 \\ rx + ry = r \end{cases} \quad \frac{|rx - ry - 1|}{\sqrt{r^2 + r^2}} = \frac{|rx + ry - r|}{\sqrt{r^2 + r^2}} \Rightarrow \frac{|rx - ry - 1|}{\sqrt{1r}} = \frac{|rx + ry - r|}{\sqrt{1r}} \Rightarrow |rx - ry - 1| = |rx + ry - r|$$

$$\begin{cases} rx - ry - 1 = rx + ry - r \rightarrow \underline{\underline{ay = r + 1}} \\ rx - ry - 1 = -rx - ry + r \rightarrow \underline{\underline{y = -rx + 0}} \end{cases}$$

$$y + rx = r \rightarrow y = -rx + r$$

$$y = rx + 0 \rightarrow y = rx + 0$$

$$\left| \frac{m-m'}{1+mm'} \right| = \tan \alpha \rightarrow \left| \frac{r+r}{1+(-1)} \right| = \left| \frac{0}{-2} \right| = 1 \Rightarrow \tan \alpha = 1$$

$$\underline{\underline{\alpha = 45^\circ}}$$

$$\omega \rightarrow A \begin{vmatrix} 1 & 0 \\ r & -r \end{vmatrix} \quad B \begin{vmatrix} 1 & 0 \\ r & -r \end{vmatrix} \rightarrow AB = \sqrt{(r+0)^2 + (-r-0)^2} = \sqrt{r^2 + r^2} = \underline{\underline{10}}$$

$$b) \rightarrow m \begin{vmatrix} \frac{r-0}{r} \\ \frac{r-r}{r} \end{vmatrix} = -1 \rightarrow \boxed{m \begin{vmatrix} 1 & -1 \\ 1 & 1 \end{vmatrix}}$$

$$a) \begin{vmatrix} -1 & -r \\ -1 & r \end{vmatrix} \begin{vmatrix} -r \\ r \end{vmatrix} \begin{vmatrix} r \\ 1 \end{vmatrix} \rightarrow \text{محدد} = \left(\frac{-1 \cdot -r + r}{r}, \frac{-1r + r + 1}{r} \right) = (-r, -r)$$

$$b) \frac{1}{r} \begin{vmatrix} -1 & -r & 1 \\ -r & r & 1 \\ r & 1 & 1 \end{vmatrix} = \frac{1}{r} \left(\underbrace{(-r \cdot r + -r \cdot 1)}_{-r^2 - r} - \underbrace{(1 + r \cdot r - 10)}_{r^2} \right) = \frac{1}{r} (-r^2 - r - r^2) = \frac{-2r^2 - r}{r} = -2r - 1$$

$$a) \rightarrow y' = -y \rightarrow -y' = \frac{r\lambda' + 1}{r\lambda' - r} \rightarrow \boxed{y' = \frac{r\lambda' + 1}{r - r\lambda'}}$$

$$y = \frac{r\lambda + 1}{r\lambda - r} - \lambda$$

$$b) \rightarrow \lambda' = -\lambda \rightarrow +y' = \frac{-r\lambda' + 1}{-r\lambda' - r} \rightarrow \boxed{y' = \frac{r\lambda' - 1}{r\lambda' + r}}$$

$$c) \rightarrow \begin{matrix} \lambda' = y \\ y' = \lambda \end{matrix} \rightarrow \frac{ry' + 1}{ry' - r} = \lambda' \rightarrow \boxed{\frac{ry' + 1}{r\lambda' - r} = y'}$$

$$d) \rightarrow \begin{matrix} \lambda' = -y \\ y' = -\lambda \end{matrix} \rightarrow -\lambda' = \frac{-ry' + 1}{-ry' - r} \rightarrow \frac{ry' + 1}{r\lambda' + r} = \lambda' \rightarrow \boxed{-\frac{r\lambda' - 1}{r\lambda' - r} = y'}$$

$$a) \rightarrow \begin{matrix} \lambda' = \lambda - r \rightarrow \lambda = \lambda' + r \\ y' = y + r \rightarrow y = y' - r \end{matrix} \rightarrow \begin{matrix} y' - r = \frac{r(\lambda' + r) + 1}{\lambda' + r - r} \\ y' = \frac{r\lambda' + r + r\lambda' - r}{\lambda' - 1} \end{matrix}$$

$$\rightarrow \boxed{y' = \frac{2r\lambda' + r}{\lambda' - 1}}$$

$$y = \frac{r\lambda + 1}{\lambda - r} \quad (\text{سوال ٨})$$

$$b) \rightarrow \begin{matrix} \lambda' = \lambda - r \rightarrow \lambda = \lambda' + r \\ y' = y - r \rightarrow y = y' + r \end{matrix} \rightarrow \begin{matrix} y' + r = \frac{r(\lambda' + r) + 1}{\lambda' + r - r} \\ y' = \frac{r\lambda' + r - r\lambda' - r}{\lambda'} \end{matrix} \rightarrow \boxed{y' = \frac{r}{\lambda'}}$$

$$a) \rightarrow \begin{cases} r\lambda + ry = r \\ \lambda - 2y = 1 \end{cases} \rightarrow \begin{cases} r\lambda + ry = r \\ -r\lambda + 10y = -r \end{cases}$$

$$\lambda + \frac{10}{r}y = 1 \rightarrow \lambda = \frac{1}{19}$$

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

$$b) \rightarrow \lambda = -\frac{\begin{vmatrix} r & r \\ -1 & 1 \end{vmatrix}}{\begin{vmatrix} r & r \\ 1 & -2 \end{vmatrix}} = -\frac{r + 1}{-10 - r} = \frac{1}{19}$$

$$y = \frac{\begin{vmatrix} r & r \\ 1 & -2 \end{vmatrix}}{\begin{vmatrix} r & r \\ 1 & -2 \end{vmatrix}} = \frac{1}{-19} = -\frac{1}{19}$$