

1 تكليف سارا 5 حبيب

3 $m = -\frac{1}{2}$ $y = ax + b \rightarrow y = -\frac{1}{2}x + b$ (الف) ①

4 $1 = -\frac{1}{2} \times 2 + b \rightarrow b = 1.1 \rightarrow y = -\frac{1}{2}x + 1.1$

6 $m = \frac{-9}{1} = -9$ $y = ax + b \rightarrow y = -9x + b$ (ب) ①

7 $1 = -9 \times 1 + b \rightarrow b = 10 \rightarrow y = -9x + 10$

9 $m \times \frac{-1}{c} = -1 \rightarrow m = c$ $y = ax + b \rightarrow y = cx + b$ (ج) ①

10 $1 = c \times 1 + b \rightarrow b = -1 \rightarrow y = cx - 1$

12 $\tan \frac{\pi}{4} = \sqrt{c}$ $y = ax + b \rightarrow y = \sqrt{c}x + b$ (د) ①

13 $1 = \sqrt{c} \times 1 + b \rightarrow b = 1 - \sqrt{c}$

14 $y = \sqrt{c}x + 1 - \sqrt{c}$

16 $AB = \sqrt{\Delta x^2 + \Delta y^2} = \sqrt{3^2 + (-2)^2} = \sqrt{13} = \sqrt{13}$ (الف) ②

18 $d = \frac{|ax + by + c|}{\sqrt{a^2 + b^2}} = \frac{|9 + 12 - 21|}{\sqrt{3^2 + 4^2}} = \frac{0}{5} = 0$ (ب) ②

21 $ax + by + \frac{c+c'}{2} \rightarrow \frac{1}{2}x + \frac{1}{2}y + \frac{-12-1}{2} = 0$ (الف) ③

22 $\frac{1}{2}x + \frac{1}{2}y - 10 = 0$

24 $\frac{1}{2}x + \frac{1}{2}y - 10 = 0$ $\frac{1}{2}x + \frac{1}{2}y - 12 = 0$ $d = \frac{|c-c'|}{\sqrt{a^2 + b^2}} = \frac{|-12-10|}{\sqrt{\frac{1}{4} + \frac{1}{4}}} = \frac{22}{\frac{1}{\sqrt{2}}} = 22\sqrt{2}$ (ب) ④

25 $\frac{1}{2}x + \frac{1}{2}y - 10 = 0$ $\frac{1}{2}x + \frac{1}{2}y - 12 = 0$ $= \frac{2}{\sqrt{2}} = \sqrt{2}$



$$\frac{|ax+by-c|}{\sqrt{a^2+b^2}} = \frac{|a'x+b'y-c'|}{\sqrt{a'^2+b'^2}} \Rightarrow \frac{|x_2-y_2-1|}{\sqrt{1^2+(-1)^2}} = \frac{|x_2+y_2-c|}{\sqrt{1^2+1^2}}$$

$$\Rightarrow |x_2 - y_2 - 1| = |x_2 + y_2 - c| \Rightarrow x_2 - y_2 - 1 = x_2 + y_2 - c$$

$$\Rightarrow x_2 - y_2 = -1 \Rightarrow x_2 - y_2 + 1 = 0$$

$$\Rightarrow x_2 - y_2 - 1 = -x_2 - y_2 + c \Rightarrow x_2 + y_2 = c - 1 \Rightarrow x_2 + y_2 - c + 1 = 0$$

$$y + x_2 - c = 0 \quad m = \frac{-c}{1} = -c \quad y - x_2 - c = 0 \quad m = 1$$

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

$$\tan \alpha = 1 \quad \alpha = \frac{\pi}{4} = 45^\circ$$

$$AB = \sqrt{1^2 + (-1)^2} = \sqrt{2}$$

(الف) ١٠

$$m \left| \frac{x_A + x_B}{2} \right| \rightarrow \left| \frac{c-d}{2} \right| \rightarrow m \left| \frac{-1}{1} \right|$$

(ب) ١١

$$G \left| \frac{x_1 + x_2 + x_3}{3} \right|$$

$$G \left| \frac{c - 1 - 1}{3} \right| \rightarrow G \left| \frac{-c}{3} \right|$$

(الف) ١٢



$$S = \frac{1}{r} \begin{vmatrix} -1 & -1 & c \\ -1 & c & 1 \\ 1 & 1 & 1 \end{vmatrix}$$

(-) (✓)

$$S = \frac{1}{r} \begin{vmatrix} -c & -3 & 9 & -1 & - (9 - 10 + 12) \end{vmatrix} = \frac{1}{r} \begin{vmatrix} 99 \end{vmatrix} = \textcircled{99}$$

$$-y = \frac{r_2 + 1}{\Sigma n - c} \rightarrow y = \frac{r_2 + 1}{r - \Sigma n}$$

(الف) (1)

$$y = \frac{-r_2 + 1}{-\Sigma n - c} \rightarrow y = \frac{r_2 - 1}{\Sigma n + c}$$

(-) (1)

$$z = \frac{r_2 + 1}{\Sigma y - c} \rightarrow y = \frac{-c_2 - 1}{r - \Sigma z} \rightarrow y = \frac{r_2 + 1}{\Sigma z - r}$$

(ج) (1)

$$-z = \frac{-r_2 + 1}{-\Sigma y - c} \rightarrow y = \frac{r_2 - 1}{-\Sigma z - r} \rightarrow y = \frac{-r_2 + 1}{\Sigma z + r}$$

(د) (1)

$$z' = z - r \rightarrow z = z' + r$$

(الف) (9)

$$y' = y + c \rightarrow y = y' - c$$

$$y' - c = \frac{r_2' + a}{z' - 1} \rightarrow y' = \frac{r_2' + a}{z' - 1} + c \rightarrow y' = \frac{r_2' + a + r_2' - c}{z' - 1}$$

$$y' = \frac{a z' + r}{z' - 1}$$

$$z' = z - c \rightarrow z = z' + c$$

(ب) (1)

$$y' = y - r \rightarrow y = y' + r \quad y' + r = \frac{r_2' + v}{z'} \rightarrow y' = \frac{r_2' + v}{z'} - r$$

$$y' = \frac{r_2' + v - r z'}{z'} \rightarrow y' = \frac{v}{z'}$$



$$\begin{cases} 3x + 5y = 2 \\ -3x + 2y = 1 \end{cases} \Rightarrow \begin{cases} 3x + 5y = 2 \\ -3x + 10y = -2 \end{cases} \quad (10) \text{ الف}$$

$$19y = -1 \rightarrow y = \frac{-1}{19}, x = \frac{15}{19}$$

$$x = \frac{(5 \times 1) - (2 \times -2)}{(2 \times -2) - (5 \times 1)} = \frac{-15}{-19} = \frac{15}{19} \quad (10) \text{ ب}$$

$$y = \frac{(3 \times 1) - (1 \times 2)}{(2 \times -2) - (5 \times 1)} = \frac{-1}{19}$$