

۱) $m = \frac{1-2}{4-8} = -\frac{1}{4}$
 $y-2 = -\frac{1}{4}(x-8)$
 $y = -\frac{1}{4}x + 1$

۲) $m = \frac{1}{-3} \rightarrow m' = 3$
 $y-2 = 3(x-4)$
 $y = 3x - 10$

۳) $m = \text{dand}$
 $A = \sqrt{3}$
 $y = \sqrt{3}x - 4\sqrt{3} + 2$

۴) $\frac{a}{a'} = \frac{b}{b'} = \frac{c}{c'}$
 $m = -3$
 $y = -3x + 14$

۵) $\sqrt{\frac{(1-1)^2}{4} + \frac{(1-1)^2}{14}} = 1$

۶) $\frac{|1 \cdot 3 + 4 \cdot 1 - 1|}{\sqrt{3^2 + 4^2}} = \frac{12}{5} = 2.4$

۷) $4x + 4y = \frac{14+1}{1}$

$4x + 4y = 15$

$4y = -4x + 15$

۸) $\frac{a}{a'} = \frac{b}{b'} = \frac{c}{c'}$
 $d = \frac{14-1}{\sqrt{4^2 + 4^2}} = \frac{13}{\sqrt{32}}$
 $4x + 4y = 15$
 $4x + 8y = 14$
 $\frac{4x}{4} = \frac{14-8y}{4}$
 $x = \frac{14-8y}{4}$

$3x - 2y - 1 = 0$

$2x + 3y - 4 = 0$

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

۹) $3x - 2y - 1 = 2x + 3y - 4$
 $x - 5y = -3$
 $3x - 2y - 1 = -2x - 3y + 4$
 $5x + y = 5$

$y = 2x + 5 \rightarrow m = 2$
 $y = -2x + 3 \rightarrow m' = -2$

$\text{dand} = \frac{|2 - (-2)|}{1 + 2(-2)} = \frac{4}{-3} = -\frac{4}{3}$
 $\alpha = \frac{12}{5}$

الف

$$|AO| = \sqrt{\left(\frac{-5-3}{4}\right)^2 + \left(\frac{4-2}{4}\right)^2} = 1.5$$

ب

$$\left(\frac{-5-3}{4}, \frac{4-2}{4}\right)$$

$$(-1, 1)$$

$$8 = \frac{1}{P} \begin{vmatrix} P & 1 & 1 \\ -2 & P & 1 \\ -1 & -1 & 1 \end{vmatrix} = P_A$$

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الف

مركز ثقل = مركز سائلا

$$x_G = \frac{-1 \cdot 3 + 3}{3} = -3$$

$$y_G = \frac{-1 \cdot 3 + 1}{3} = 3$$

ب

$$C \left| \begin{matrix} 1 & 2 \\ 3 & 1 \end{matrix} \right| = 1 \cdot 1 - 2 \cdot 3 = -5$$

مساحة مثلث ABC

$$y = \frac{5}{2}x + 17$$

$$d = \frac{17 - 5 + 17}{5} = 5$$

$$\frac{1}{2} \times \sqrt{5} \times \frac{17}{5} = \frac{\sqrt{5} \cdot 17}{10}$$

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الف

$$-y = \frac{2x+1}{4x-3}$$

$$-x = \frac{-2y+1}{-4y-3} \rightarrow y = \frac{-2x+1}{4x+3}$$

$$ب) y = \frac{-2x+1}{-4x-3}$$

$$ج) x = \frac{2y+1}{4y-3} \rightarrow 4xy - 3x = 2y+1 \rightarrow y = \frac{2x+1}{4x-3}$$

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$$\begin{cases} x' = x-2 \\ y' = y+3 \end{cases} \rightarrow \begin{cases} x = x'+2 \\ y = y'-3 \end{cases}$$

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

$$y' = \frac{2x'+5}{x'-1}$$

ب

$$\begin{cases} x' = x-2 \\ y' = y-3 \end{cases} \rightarrow \begin{cases} x = x'+2 \\ y = y'+3 \end{cases}$$

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

$$y' = \frac{2}{x'}$$

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الف

$$3x + 2y = 2$$

$$x(-3) \quad x - 5y = 1$$

$$\begin{cases} 3x + 2y = 2 \\ -3x + 15y = -3 \end{cases}$$

$$y = -\frac{1}{13} \quad x = \frac{12}{13}$$

ب

$$x = - \frac{\begin{vmatrix} 3 & 2 \\ -3 & 1 \end{vmatrix}}{\begin{vmatrix} 3 & 2 \\ -3 & 1 \end{vmatrix}} = \frac{-5}{-10-2} = \frac{5}{12}$$

$$y = \frac{\begin{vmatrix} 3 & 2 \\ -3 & 1 \end{vmatrix}}{\begin{vmatrix} 3 & 2 \\ -3 & 1 \end{vmatrix}} = \frac{-5}{-10-2} = \frac{5}{12}$$

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