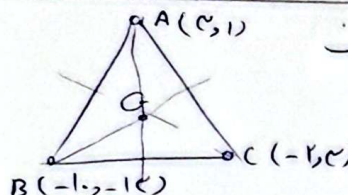


$A(3, -2)$ $B(-2, 1)$ $M(-0.5, 1)$ $A(3, -2)$ $B(-2, 1)$ $M(-0.5, 1)$ (4)
 $AB = \sqrt{(\Delta x)^2 + (\Delta y)^2} \Rightarrow \sqrt{(-2-3)^2 + (1-(-2))^2} = \sqrt{10} = 1$
 ب) $\frac{-2+3}{2} = (-1)$, $\frac{-2+1}{2} = (1)$ $\boxed{\frac{1}{2}(-1, 1)}$

 (5)
 الف) $G \left(\frac{x_A + x_B + x_C}{3}, \frac{y_A + y_B + y_C}{3} \right) \Rightarrow (-1, \frac{1}{3})$
 ب) $S = \frac{1}{2} | 3(-1-2) + 1(2-1) - 2(1-(-1)) | = 4 \times \frac{1}{2} = 2$

$y = \frac{2x+1}{x-2}$ الف) $\frac{2x+1}{x-2} = 0 \rightarrow 2x+1=0 \rightarrow 2x=-1 \rightarrow x = -\frac{1}{2}$ $\boxed{y = \frac{-1-2x}{x-2}}$ (1)
 ب) $y = \frac{1-2x}{-x-3} \Rightarrow y = \frac{-1+2x}{x+3}$ $\sum) y = \frac{2x+1}{x-2} \rightarrow x = \frac{2y+1}{y-2} \rightarrow 2y+1 = (2y-2)(x-2)$
 $\Rightarrow 1+2x = 2xy - 2y \Rightarrow y = \frac{1-2x}{x+2}$
 ج) $y = -x$ $-x = \frac{2(-y)+1}{(-y)-2} \Rightarrow -x = \frac{1-2y}{-y-2} \Rightarrow 1-2x = (2y-2)(-y-2)$

$y = \frac{2x+1}{x-2}$ الف) $a=2, b=-2$ (4)
 $X=x-2, Y=y+2 \Rightarrow x=X+2, y=Y-2 \Rightarrow Y-2 = \frac{2(X+2)+1}{(X+2)-2}$
 $\Rightarrow Y-2 = \frac{2X+5}{X} \Rightarrow Y = \frac{2X+5}{X} + 2 = \frac{2X+5+2X}{X} = \frac{4X+5}{X}$
 ب) $a=2, b=2$
 $x=X+2, y=Y+2 \Rightarrow Y+2 = \frac{2(X+2)+1}{(X+2)-2} \Rightarrow Y = \frac{2X+5}{X} - 2 = \frac{2X+5-2X}{X} = \frac{5}{X}$

$\begin{cases} 2x+3y=2 \\ x-5y=1 \end{cases}$ الف) $\begin{cases} 2x+3y=2 \\ x-5y=1 \end{cases} \Rightarrow x = \frac{12}{19}$ (1)
 $19y = -1 \Rightarrow y = -\frac{1}{19}$
 ب) $\begin{cases} ax+by=c \\ a'x+b'y=c' \end{cases} \Rightarrow x = -\frac{\begin{vmatrix} c & b \\ c' & b' \end{vmatrix}}{\begin{vmatrix} a & b \\ a' & b' \end{vmatrix}} = -\frac{2(-1) - (-10)}{10-15} = \frac{12}{19}$
 $y = \frac{\begin{vmatrix} a & c \\ a' & c' \end{vmatrix}}{\begin{vmatrix} a & b \\ a' & b' \end{vmatrix}} = \frac{2-2}{10-15} = -\frac{1}{19}$