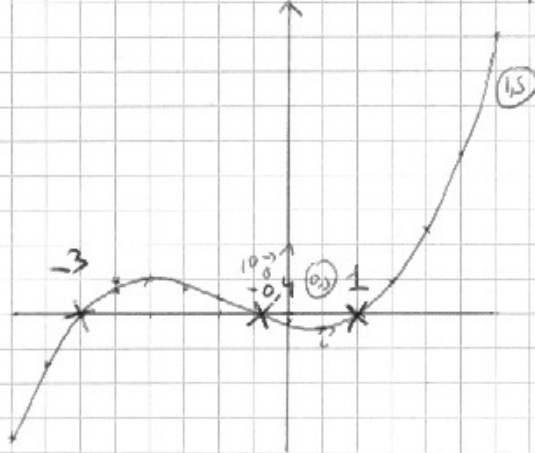


DM n° 3

Ex1

x	-4	-3,5	-3	-2,5	-2	-1,5	-1	-0,5	0	0,5	1,0	1,5	2	2,5	3
f(x)	-18,3	-7,1	0	3,8	5	4,4	2,7	0,6	-1	-1,4	0	4,1	11,7	23,4	40



③ $f(x) = 0 \Rightarrow S = \{-3; -0,4; 1\}$

④ $(x+3)(ax^2+bx+c)$
 $= ax^2 + bx^2 + cx + 3ax^2 + 3bx + 3c$
 $= ax^2 + (b+3a)x^2 + (c+3b)x + 3c$ ①

$$\begin{cases} a=1 \\ c=-\frac{1}{3} \\ b+3=\frac{2}{3} \\ -\frac{1}{3}+3b=-\frac{7}{3} \end{cases} \quad \begin{cases} a=1 \\ c=-\frac{1}{3} \\ b=-\frac{7}{3}-\frac{2}{3}=-\frac{9}{3} \\ 3b=-\frac{7}{3}+\frac{1}{3}=-\frac{6}{3}=-2 \end{cases} \quad \begin{cases} a=1 \\ c=-\frac{1}{3} \\ b=-\frac{2}{3} \\ b=-\frac{2}{3} \end{cases} \quad \text{②}$$

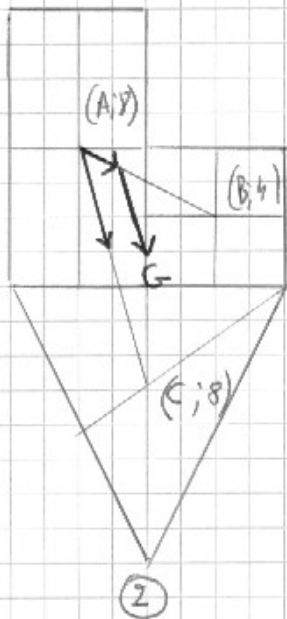
$f(x) = (x+3)(x^2 - \frac{2}{3}x - \frac{1}{3})$

⑤ $(x-1)(ax+b)$
 $= ax^2 + bx - ax - b$
 $= ax^2 + (b-a)x - b$ ①

$\begin{cases} a=1 \\ b=\frac{1}{3} \\ b-a=\frac{1}{3}-1=-\frac{2}{3} \end{cases}$ ① $f(x) = (x+3)(x-1)(x+\frac{2}{3})$

⑥ $f(x) = 0 \Leftrightarrow (x+3)(x-1)(x-\frac{2}{3}) = 0 \quad S = \{-3; 1; \frac{2}{3}\}$ ①

Ex2



G barycentre de $\{(A; 8); (B; 4); (C; 8)\}$
 donc $\{(A; 2); (B; 1); (C; 2)\}$ ①

$$\begin{aligned} 2\vec{AG} + \vec{BG} + 2\vec{CG} &= \vec{0} \\ 2\vec{AG} + \vec{BA} + \vec{AG} + 2\vec{CA} + 2\vec{AG} &= \vec{0} \\ 5\vec{AG} &= \vec{AB} + 2\vec{AC} \\ \vec{AG} &= \frac{1}{5}\vec{AB} + \frac{2}{5}\vec{AC} \quad \text{②} \end{aligned}$$

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