

ALGÈBRE

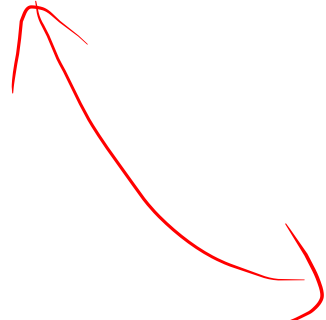
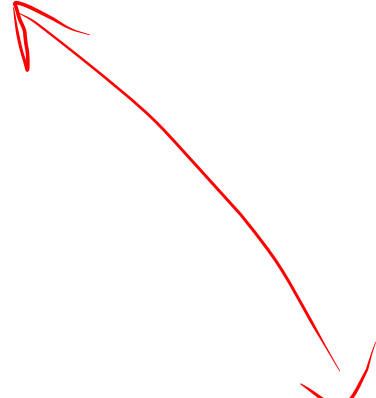
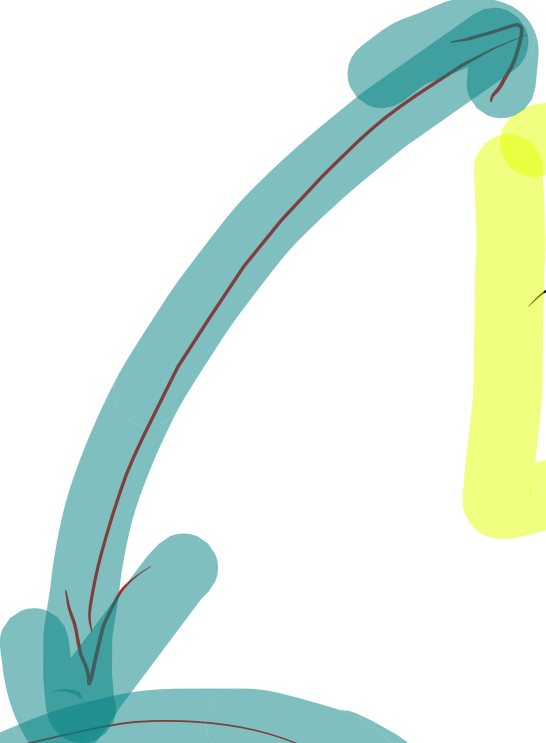
$$f(x) = 2x^2 + bx + c$$

GRAPHE

ETUDE

FRANÇAIS

TABLEAU



$$f(x) = 2x^2 - 3x - 4$$

$2 > 0$

b

c

$$b^2 - 4ac$$

$$\Delta = b^2 - 4ac$$

$$= (-3)^2 - 4 \cdot 2 \cdot (-4)$$

$$= 9 + 32$$

$$= 41 > 0$$

$$\frac{-(-3) + \sqrt{41}}{4} \approx 2,3$$

$$\frac{-(-3) - \sqrt{41}}{4} \approx -0,9$$

$$f(0) = -4$$

$(0; -4)$

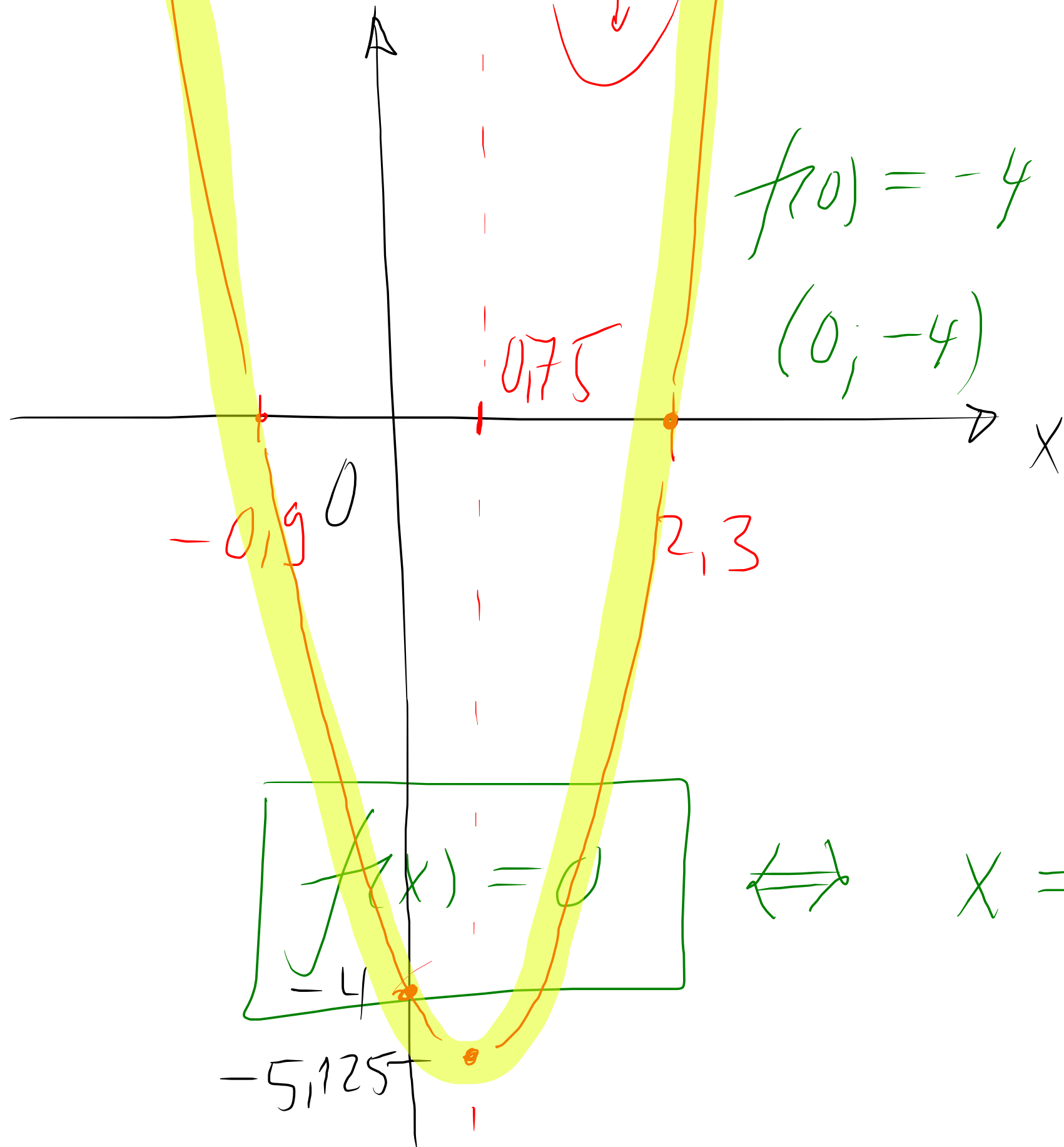
$0,75$

$2,3$

$-0,9$

$$f(x) = 0$$

$-5,125$



Etude complète de

$$\Delta = b^2 - 4ac$$

$$f(x) = ax^2 + bx + c$$

① Zéros: $\Delta \geq 0$ $x = \frac{-b \pm \sqrt{\Delta}}{2a}$

points: $(x_1; 0)$
 $(x_2; 0)$

$\Delta < 0$ pas de zéros

$\frac{-b + \sqrt{\Delta}}{2a}$
 $\frac{-b - \sqrt{\Delta}}{2a}$

② Sommet: $x = -b/2a$

point S(x; y)

$$y = a\left(-\frac{b}{2a}\right)^2 + b\left(-\frac{b}{2a}\right) + c$$

③ $(0; f(0)) = (0; c)$

④ Placer les points trouvés; dessiner

le graphe $(a > 0 \cup a < 0 \cap)$

SOMMET

DE

$$y = 2x^2 - 3x - 4$$

a b c

$$x = -\frac{b}{2a}$$

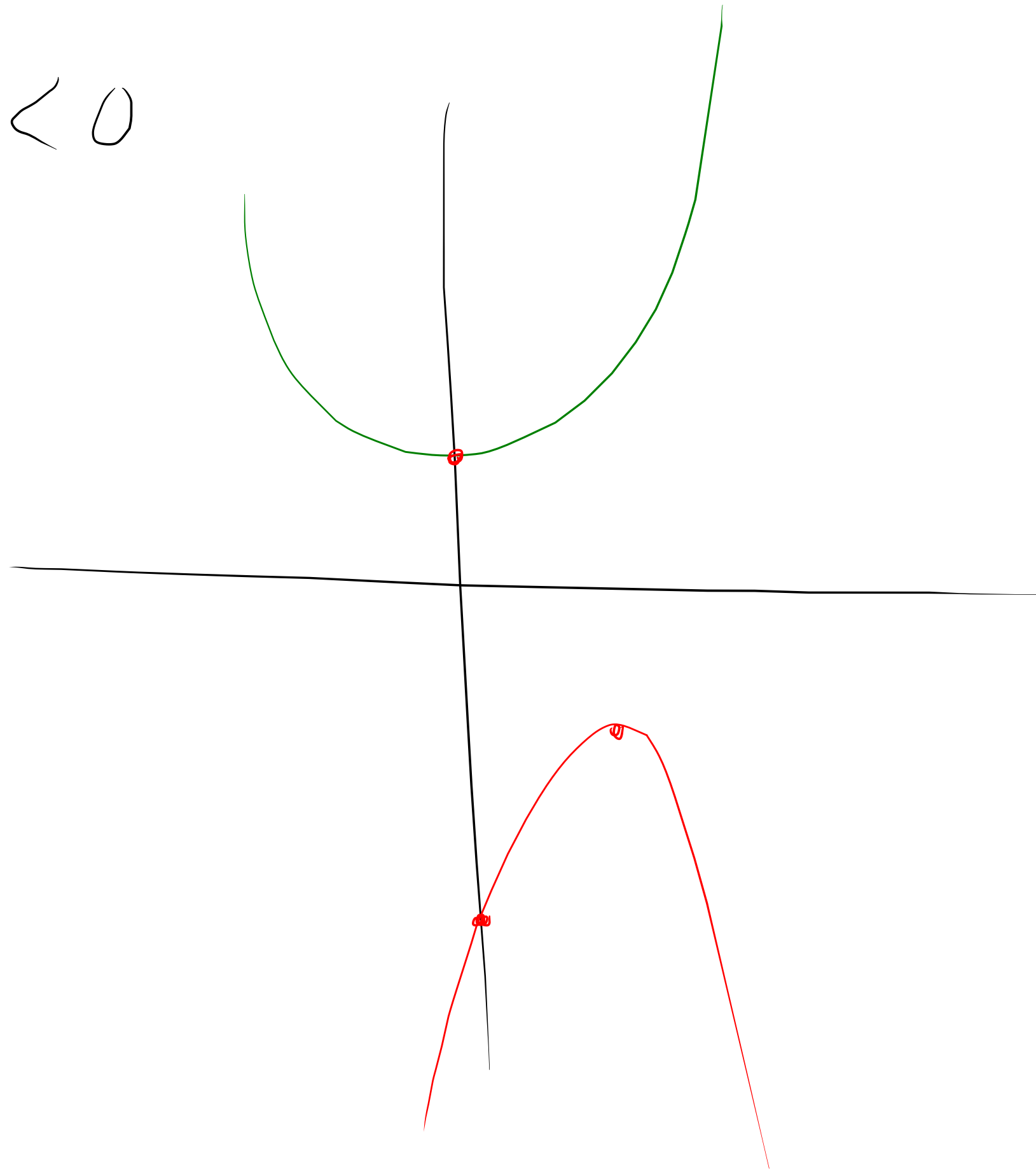
$$= -\frac{-3}{2 \cdot 2} = \frac{3}{4} = 0,75$$

$$y = 2 \cdot (0,75)^2 - 3 \cdot 0,75 - 4$$

$$= -5,125$$

$$S = (0,75; -5,125)$$

$$\Delta < 0$$



~~CONSIGNE~~

2.2

2.3

ETUDIER LA FONCTION