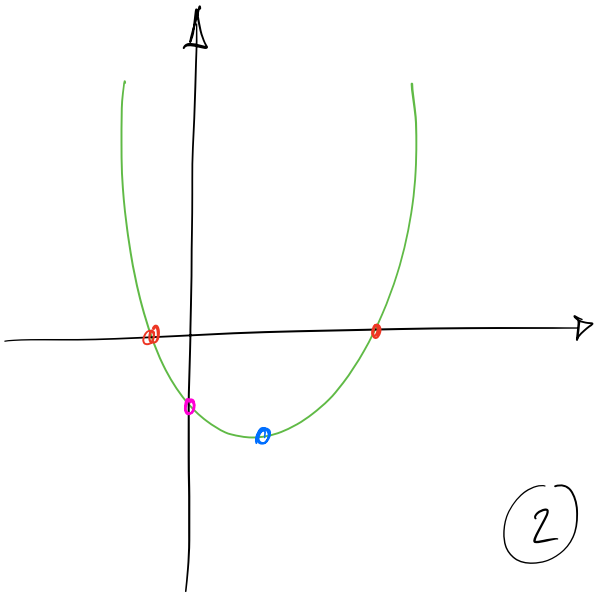
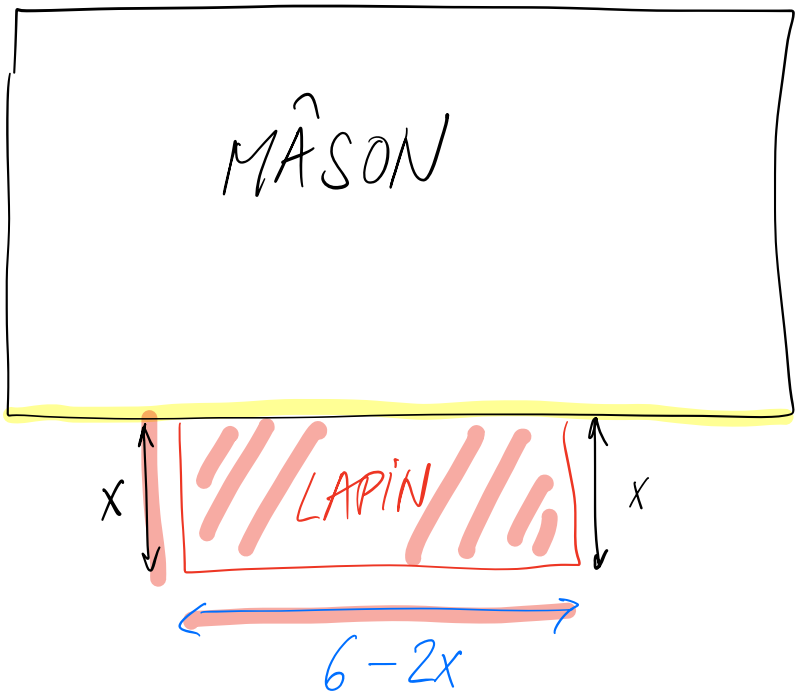
Optimisation

① Tracer le graphe d'une parabole



② Résoudre un problème

2.10



6 m de clôture

$S = x \cdot (6 - 2x)$

$= 6x - 2x^2$

$= -2x^2 + 6x + 0$

↑ Sommet !

JARDIN

Dessiner $-2x^2+6x+0$

Zéros:

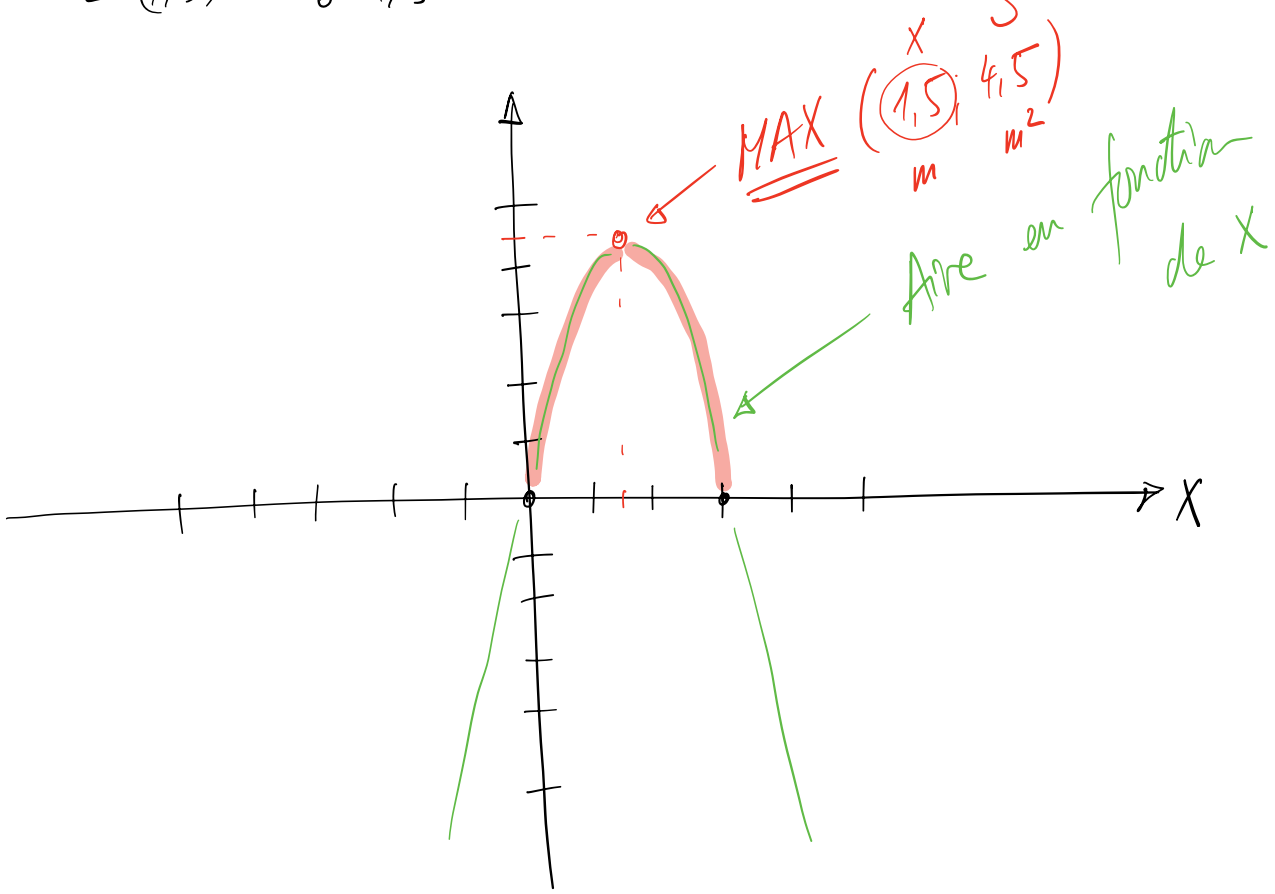
$$\Delta = 6^2 - \underbrace{4\cdot(-2)\cdot 0}_{0} = 6^2 = 36$$

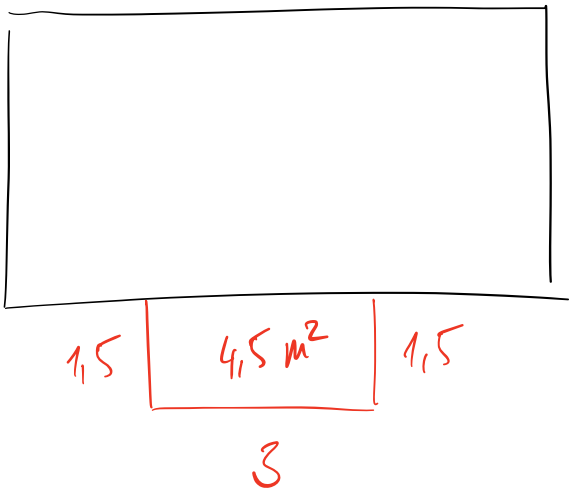
$$x = \frac{-6 \pm \sqrt{36}}{-4} = \frac{-6 \pm 6}{-4} = \begin{cases} 0 \\ 3 \end{cases}$$

Sommet:

$$x = \frac{-6}{2(-2)} = \frac{-6}{-4} = 1{,}5$$

$$-2\cdot(1{,}5)^2 + 6\cdot 1{,}5 = -4{,}5 + 9 = 4{,}5$$





Les dimensions sont 1,5 m et 3 m

2.13