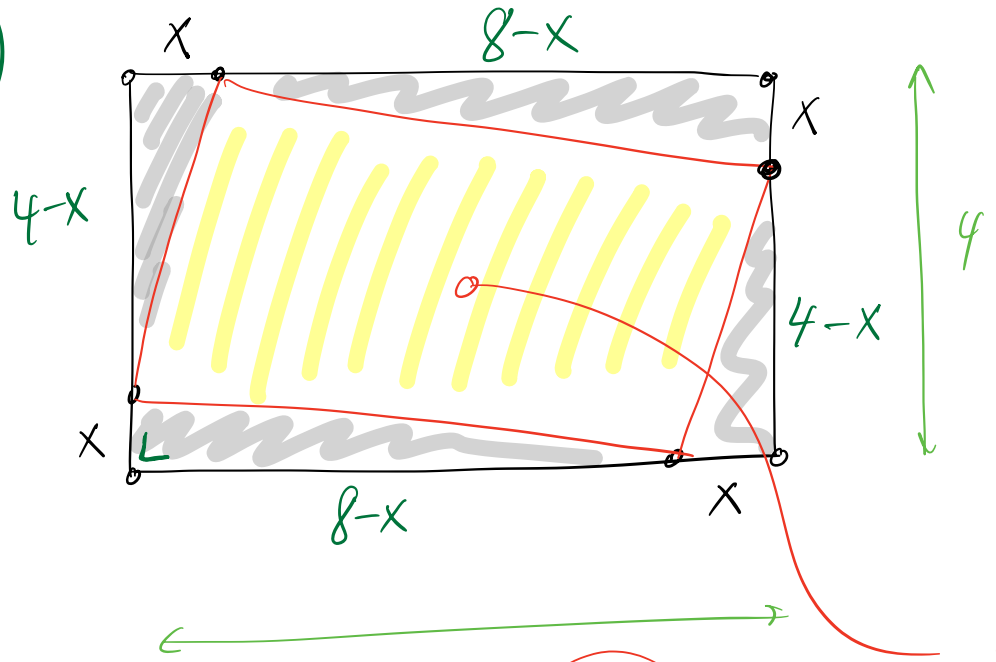
d)



PZ Bulica 2023

8

$S(x) = 2x^2 - 12x + 32$

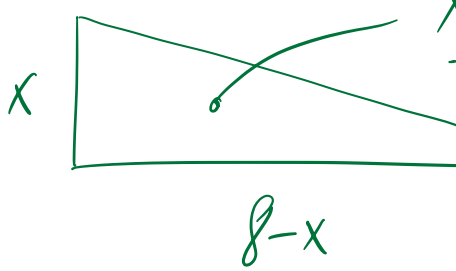
rectangle

$8 \cdot 4 - \left(\frac{x(8-x)}{2} \cdot 2 + \frac{x(4-x)}{2} \cdot 2 \right) = 32 - (8x - x^2 + 4x - x^2)$

$= 32 - (12x - 2x^2)$

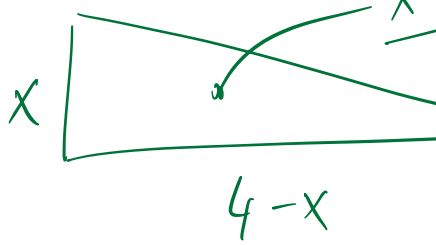
$= 32 - 12x + 2x^2$

$= 2x^2 - 12x + 32$



$\frac{x \cdot (8-x)}{2}$

$\cdot 2$



$\frac{x \cdot (4-x)}{2}$

$\cdot 2$

270 convexe

$\Rightarrow$ $\cup$ min

b) $-\frac{b}{2a} = -\frac{(-12)}{2 \cdot 2} = \frac{12}{4} = 3$

$2x^2 - 12x + 32$

$\Delta = 144 - 4 \cdot 2 \cdot 32 = 144 - 256 = -112$

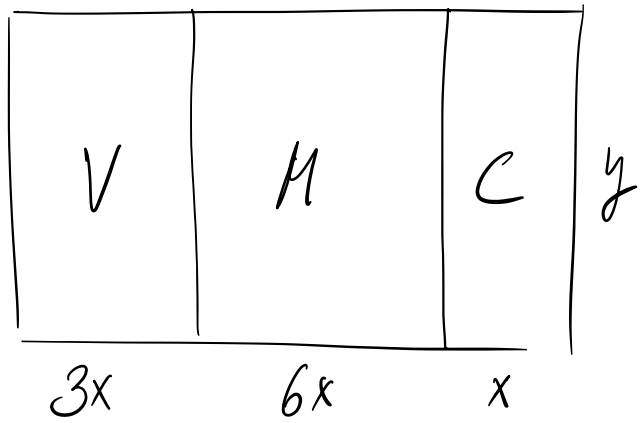
$-\frac{\Delta}{4a} = \frac{112}{8} = 14$

Pour $x = 3$ l'aire est min

c) La valeur est 14

2.21

a)



b) $6x+6y+24x+2y+6x+y = 36x+9y$

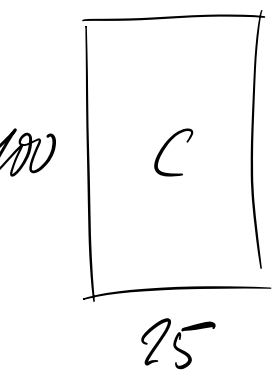
c) $36x+9y = 1800$

$y = 200 - 4x$

$A(x) = 10x(200-4x) = 2000x - 40x^2$

d) $-\frac{b}{2a} = \frac{-2000}{2\cdot(-40)} = 25$

$x = 25 \Rightarrow$



$200 - 4\cdot 25 = 200 - 100$

$= 100$

$A_{max} = 2000\cdot 25 - 40\cdot 625 = 25\,000$