(1) x, y ? # comics: y # boustures: x

(2) Contraintes ? $\square x + \square \cdot y \leq \square$

A	$2 \cdot x + 5 \cdot y \leq 180$	a)
B	$3x + 3y \leq 135$	b)
	$x \geqslant 0 \quad y \geqslant 0$	c) d)

(3) Polygone des contraintes

a) $2x + 5y = 180 \;/\; 5y = -2x + 180 \;/\; y = -\frac{2}{5}x + 36$

b) $3x + 3y = 135 \;/\; 3y = -3x + 135 \;/\; y = -x + 45$

c) $x = 0$

d) $y = 0$

$$y = -\frac{2}{5}x + 36$$

$$y = -x + 45$$

$$-x + 45 = -\frac{2}{5}x + 36$$

$$45 - 36 = x - \frac{2}{5}x = \frac{3}{5}x$$

$$9 = \frac{3}{5}x \;/\; x = 15$$

$$y = 30$$

a) profit: $2000x + 3000y$

$2000x + 3000y = 0 \;/\; 2x + 3y = 0 \;/\; 3y = -2x$

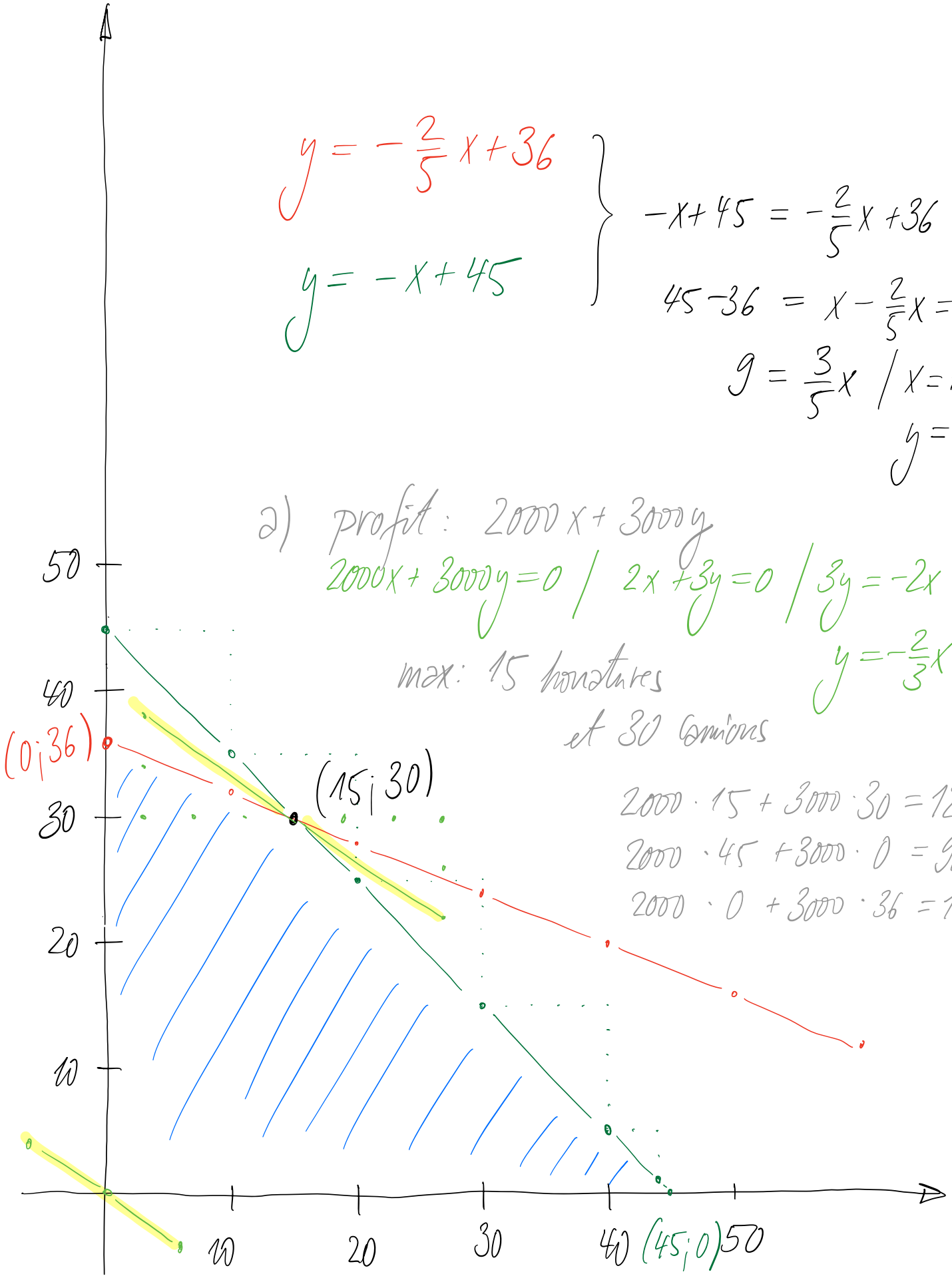
$y = -\frac{2}{3}x$

max: 15 hourtures et 30 camions

$2000 \cdot 15 + 3000 \cdot 30 = 120\,000$

$2000 \cdot 45 + 3000 \cdot 0 = 90\,000$

$2000 \cdot 0 + 3000 \cdot 36 = 108\,000$



Pour le a), il faut fabriquer 15 hourtures et 30 camions.

$y = -\frac{2}{5}x + 36$

$y = -x + 45$

$-x + 45 = -\frac{2}{5}x + 36$

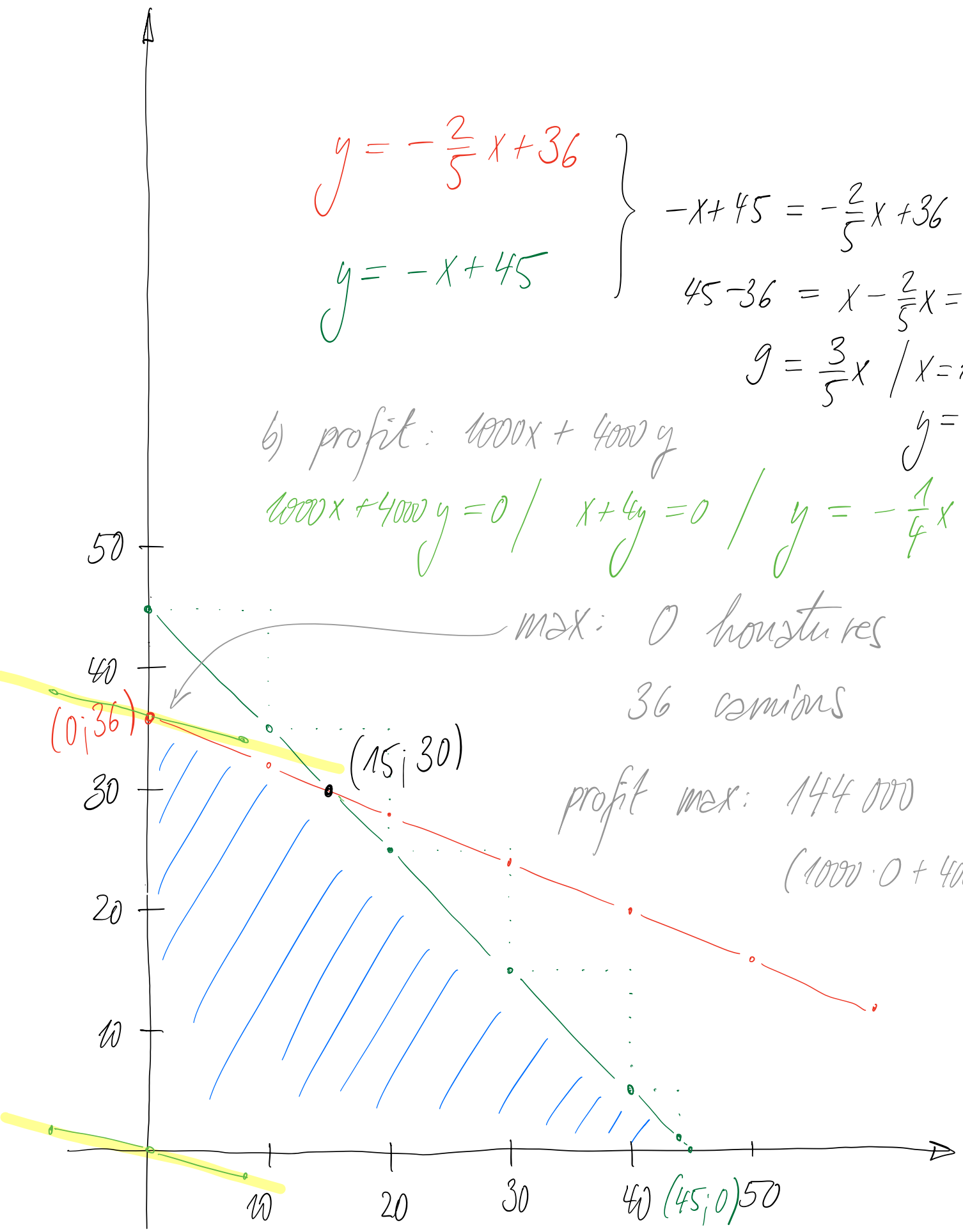
$45 - 36 = x - \frac{2}{5}x = \frac{3}{5}x$

$9 = \frac{3}{5}x \;/\; x = 15$

$y = 30$

b) profit : $1000x + 4000y$

$1000x + 4000y = 0 \;/\; x + 4y = 0 \;/\; y = -\frac{1}{4}x$



max : 0 voitures

36 camions

profit max : 144 000

$(1000 \cdot 0 + 4000 \cdot 36)$

Pour le b), il faut fabriquer 0 voiture et 36 camions.

$y = -\frac{2}{5}x + 36$

$y = -x + 45$

$-x + 45 = -\frac{2}{5}x + 36$

$45 - 36 = x - \frac{2}{5}x = \frac{3}{5}x$

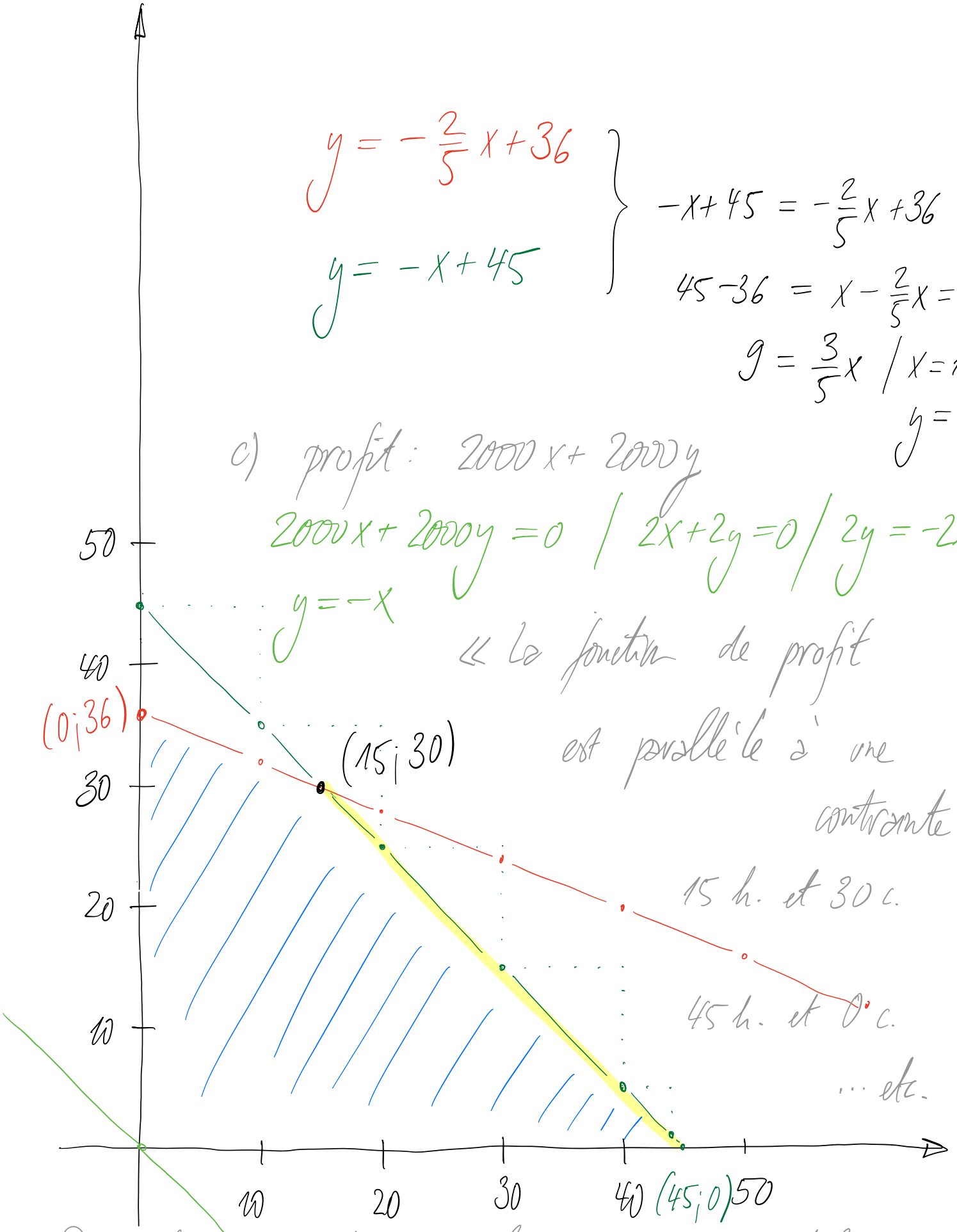
$9 = \frac{3}{5}x \;/\; x = 15$

$y = 30$

c) profit : $2000x + 2000y$

$2000x + 2000y = 0 \;/\; 2x + 2y = 0 \;/\; 2y = -2x$

$y = -x$



« la fonction de profit est parallèle à une contrainte »

15 h. et 30 c.

45 h. et 0 c.

... etc.

Pour le c), toutes les valeurs posées en stabilo jaune sont OK.