Armoires : x

Tables : y

CONTRAINTES

$4 \cdot 0 + 5 \cdot 0 \leq 210$ VRAI

$4x + 5y \leq 210$

$5 \cdot 0 + 25 \cdot 0 \leq 180$ VRAI

$5x + 25y \leq 180$

$6 \cdot 0 + 5 \cdot 0 \leq 240$ VRAI

$6x + 5y \leq 240$

$x \geqslant 0$

$y \geqslant 0$

$(0;42)\ (52,5;0)$

$(0;72)\ (36;0)$

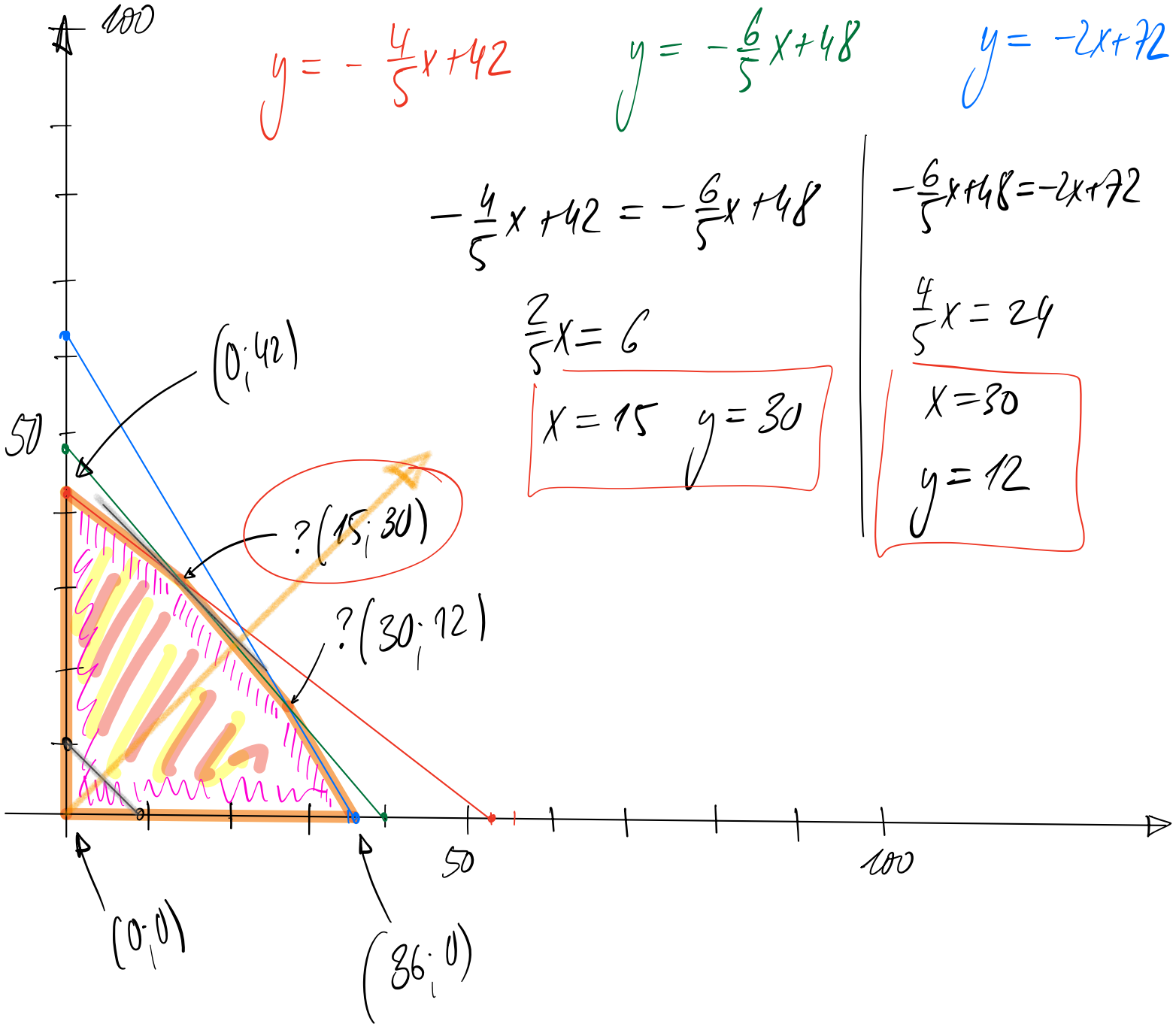
$(0;48)\ (60;0)$

$$y = -\frac{4}{5}x + 42$$

$$y = -2x + 72$$

$$y = -\frac{6}{5}x + 48$$

À dessiner



$y = -\frac{4}{5}x + 42$ $\quad y = -\frac{6}{5}x + 48$ $\quad y = -2x + 72$

$-\frac{4}{5}x + 42 = -\frac{6}{5}x + 48$ $\quad | \quad -\frac{6}{5}x + 48 = -2x + 72$

$\frac{2}{5}x = 6$ $\quad | \quad \frac{4}{5}x = 24$

$x = 15 \quad y = 30$ $\quad | \quad x = 30 \quad y = 12$

a) $1000x + 900y = 0 \Leftrightarrow y = -\frac{1000}{900}x = -\frac{10}{9}$

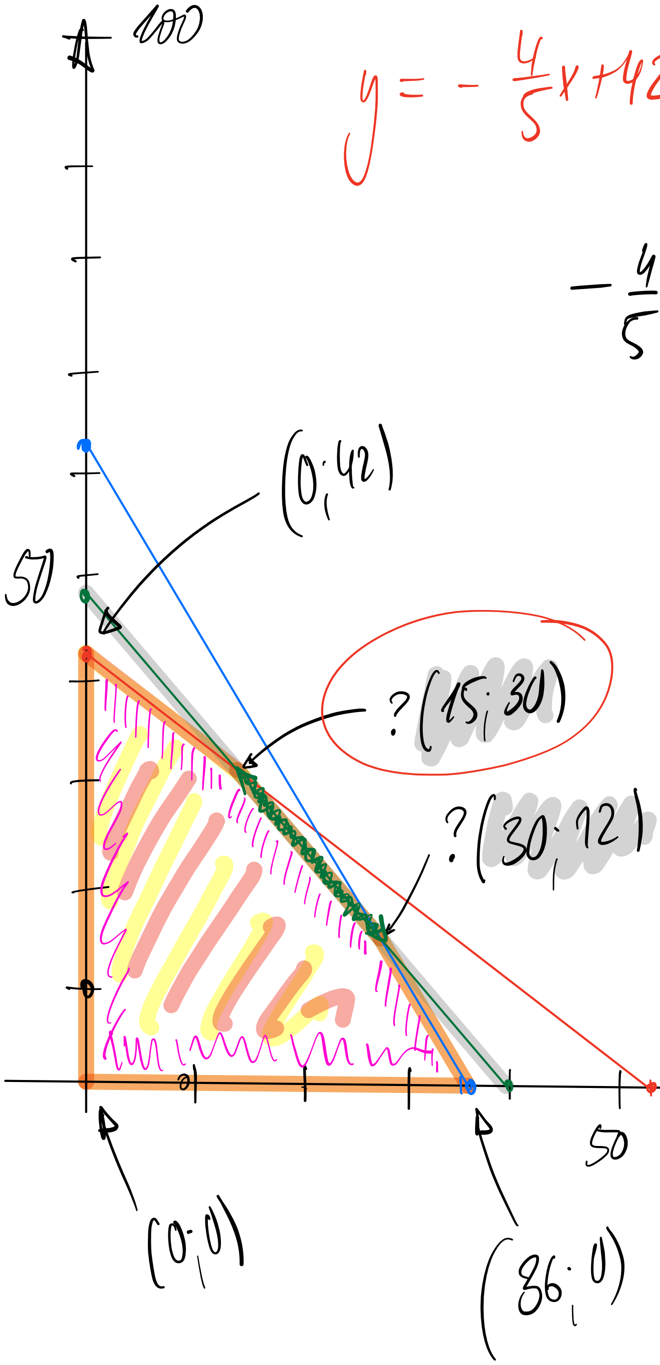
$1000 \cdot 15 + 900 \cdot 30 = 15000 + 27000 = 42000$ MAX (15; 30)

$1000 \cdot 30 + 900 \cdot 12 = 30000 + 10800 = 40800$

$1000 \cdot 0 + 900 \cdot 42 = 37800$

$1000 \cdot 36 + 900 \cdot 0 = 36000$

$y = -\frac{4}{5}x + 42$ $\quad y = -\frac{6}{5}x + 48$ $\quad y = -2x + 72$



$$-\frac{4}{5}x + 42 = -\frac{6}{5}x + 48$$

$$\frac{2}{5}x = 6$$

$$x = 15 \quad y = 30$$

$$-\frac{6}{5}x + 48 = -2x + 72$$

$$\frac{4}{5}x = 24$$

$$x = 30$$

$$y = 12$$

$$1200x + 1000y = 0$$

$$y = \frac{-1200}{1000}x = -\frac{12}{10}x = -\frac{6}{5}x$$

MAX: (15;30) или (30;12)

2) $1000x + 900y = 0 \iff y = -\frac{1000}{900}x = -\frac{10}{9}$

$$1000 \cdot 15 + 900 \cdot 30 = 15000 + 27000 = 42000$$

MAX (15;30)

$$1000 \cdot 30 + 900 \cdot 12 = 30000 + 10800 = 40800$$

$$1000 \cdot 0 + 900 \cdot 42 = 37800$$

$$1000 \cdot 36 + 900 \cdot 0 = 36000$$

1.13

#A : x #B : y

S $x + 2y \leq 20$

P $2x + y \leq 22$

F $x + y \leq 12$

$x \geqslant 0$

$y \geqslant 0$

IMPLICITES

f obj. : $200x + 300y$

MAXIMISER

$(x;y)$	$200x+300y$
$(0;0)$	0
$(0;10)$	3000
$(4;8)$	3200
$(10;2)$	2600
$(11;0)$	2200

$y = -\frac{1}{2}x + 10$

$y = -2x + 22$

$y = -x + 12$

$200x + 300y = 0$

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