

1.4

a)  $f(0;0) = 0$

$$f(0;3) = 3 \cdot 0 + 4 \cdot 3 = 12$$

$$f(4;3) = 3 \cdot 4 + 4 \cdot 3 = 24$$

$$f(4;6) = 3 \cdot 4 + 4 \cdot 6 = 12 + 24 = 36$$

$$f(0;12) = 3 \cdot 0 + 4 \cdot 12 = 48$$

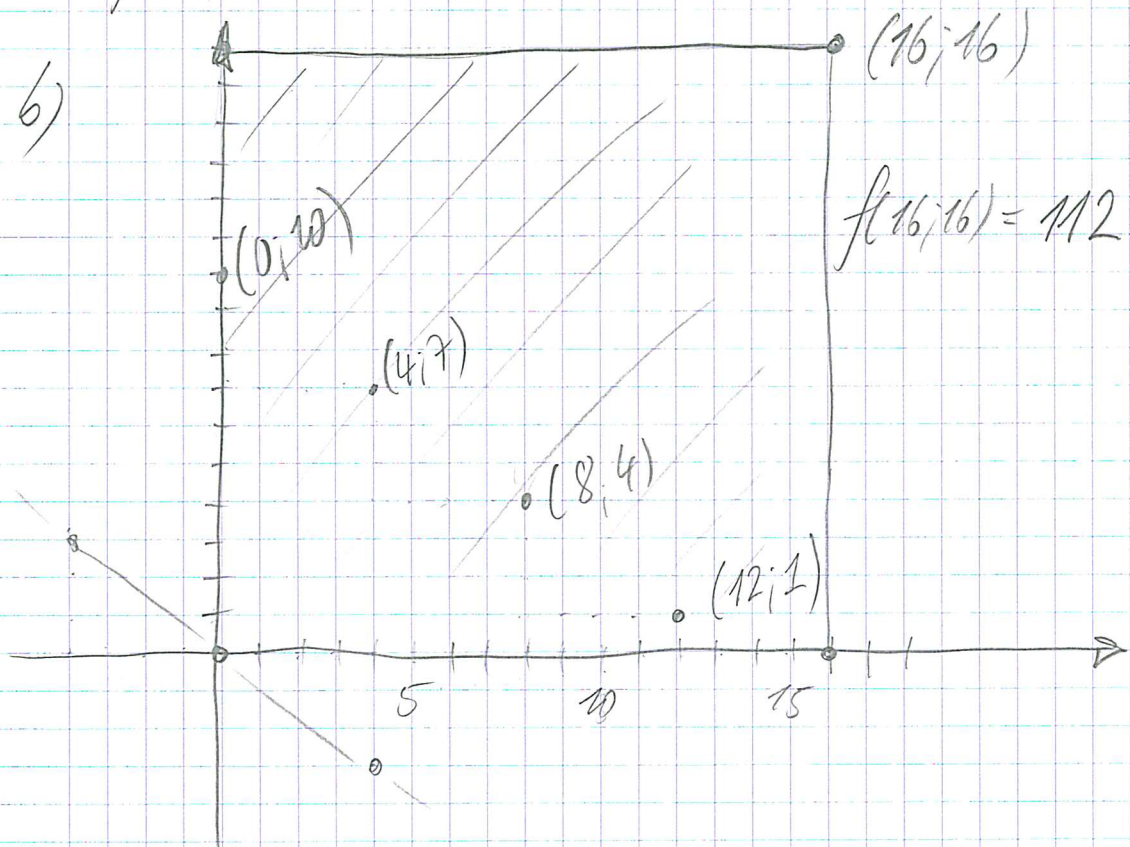
$$f(4;9) = 3 \cdot 4 + 4 \cdot 9 = 12 + 36 = 48$$

$$f(8;6) = 3 \cdot 8 + 4 \cdot 6 = 24 + 24 = 48$$

$$f(12;3) = 3 \cdot 12 + 4 \cdot 3 = 36 + 12 = 48$$

$$f(16;0) = 3 \cdot 16 + 4 \cdot 0 = 48$$

b)



$$c) \quad 3x + 4y = 40$$

$$3 \cdot 8 + 4 \cdot 4 = 24 + 16 = 40$$

$$E_6(8; 4)$$

$$3 \cdot 4 + 4 \cdot 7 = 12 + 28 = 40$$

$$E_7(4; 7)$$

$$3 \cdot 12 + 4 \cdot 1 = 36 + 4 = 40$$

$$E_8(12; 1)$$

$$3 \cdot 0 + 4 \cdot 10 = 40$$

$$E_9(0; 10)$$

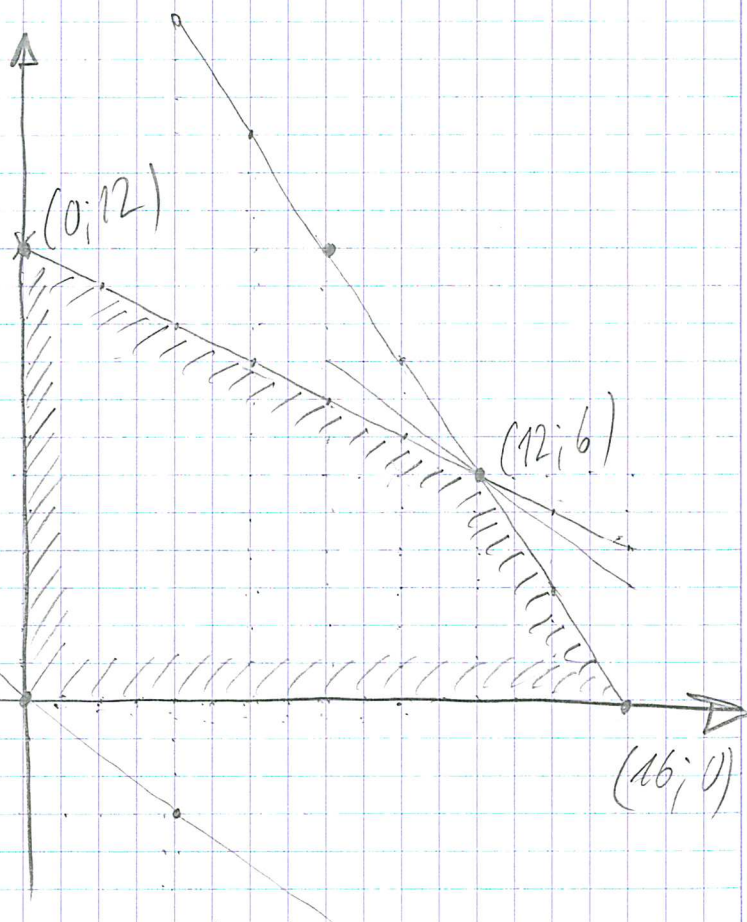
$$d) \quad x + 2y - 24 \leq 0$$

$$3x + 2y - 48 \leq 0$$

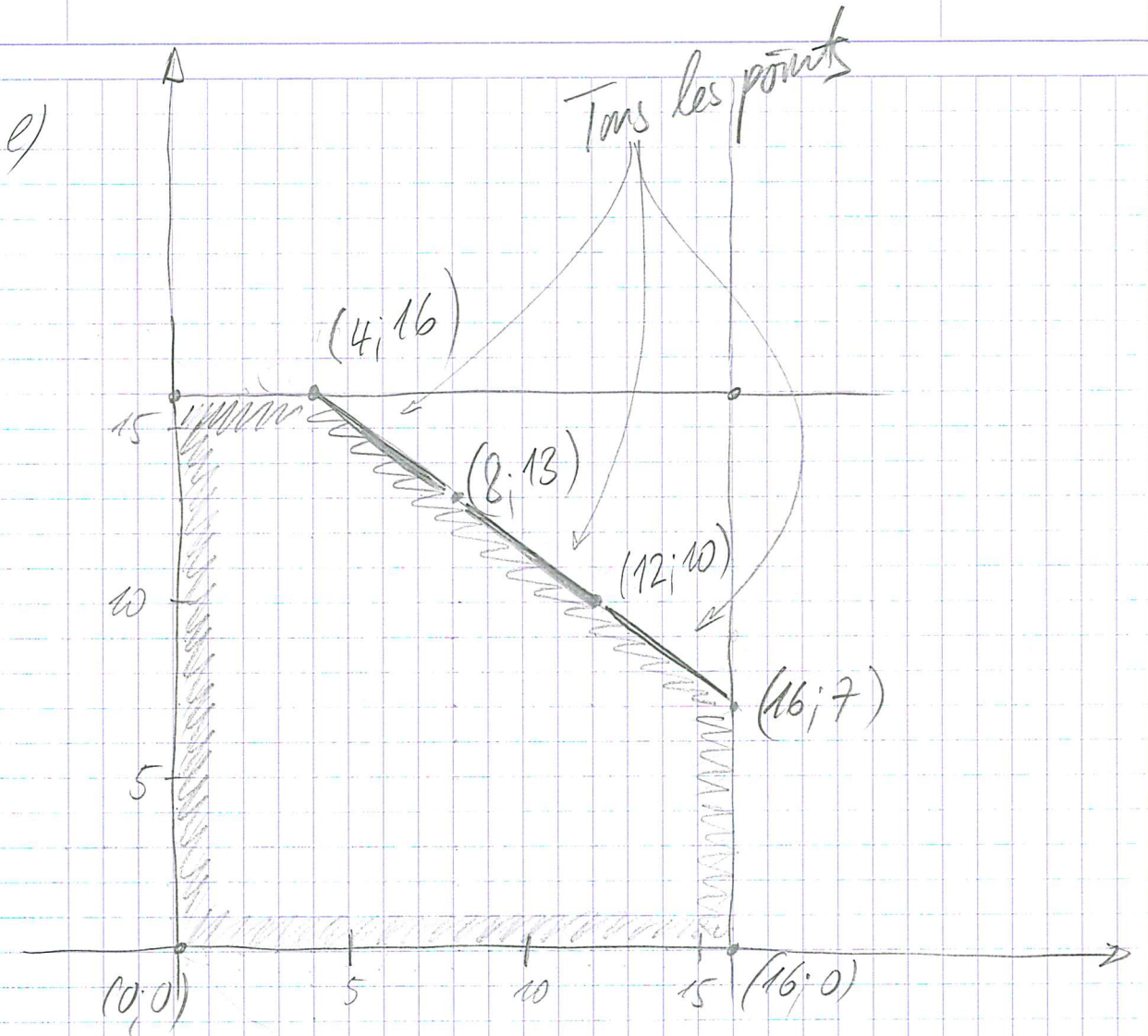
$$f(x; y) = 3x + 4y$$

$$f(12; 6) = 36 + 24 = 60$$

$$y = -\frac{3}{4}x$$







$$3x + 4y - 76 = 0 \quad y = 10$$

$$3x + 40 - 76 = 3x - 36 = 0 \quad / \quad x = 12$$

$$x = 8 \quad / \quad 24 + 4y - 76 = 0 \quad / \quad 4y = 52 \quad / \quad y = 13$$

4 points entiers : Voir le graphe

Tous les points : segment entre  $(4; 16)$  et  $(16; 7)$

$$\left\{ (x; y) \in \mathbb{R}^2 \quad / \quad \begin{array}{l} 3x + 4y - 76 = 0, \\ 4 \leq x \leq 16 \\ 7 \leq y \leq 16 \end{array} \right\}$$