

Ex 6 : Question 1 :

Le nombre 2 est solution si  $2 \in S$ .

a)  $x < 2 \quad S = ]-\infty; 2[ \Rightarrow 2 \notin S$

b)  $-4x - 3 > -10$

$$-4x > -7$$

$$x < \frac{7}{4}$$

$$S = ]-\infty; \frac{7}{4}[ \Rightarrow 2 \notin S$$

c)  $5x - 4 \leq 7$

$$5x \leq 11$$

$$x \leq \frac{11}{5}$$

$$S = ]-\infty; \frac{11}{5}] \Rightarrow 2 \in S$$

d)  $9 - 3x \geq 3$

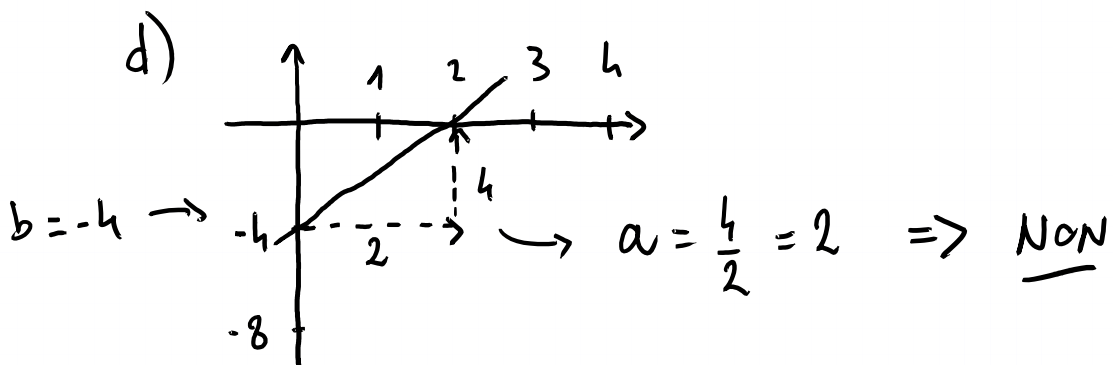
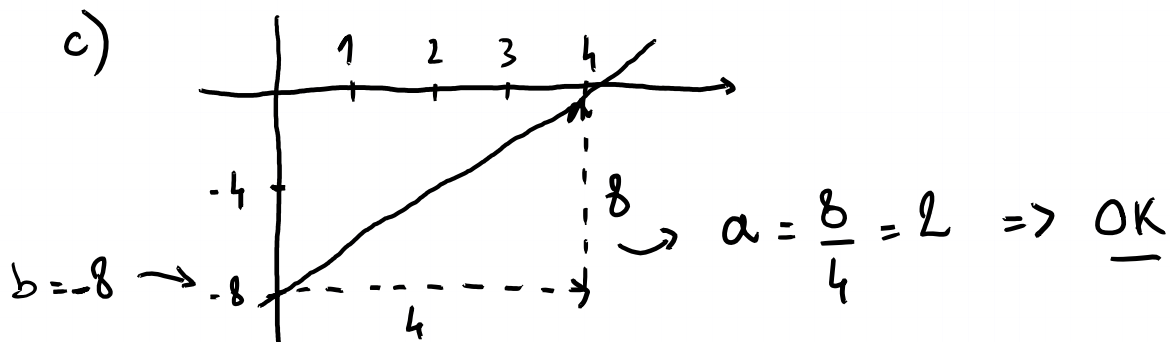
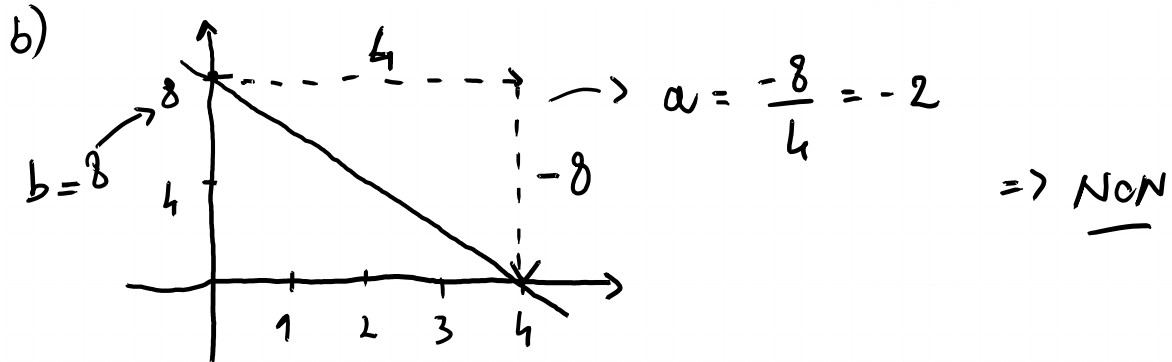
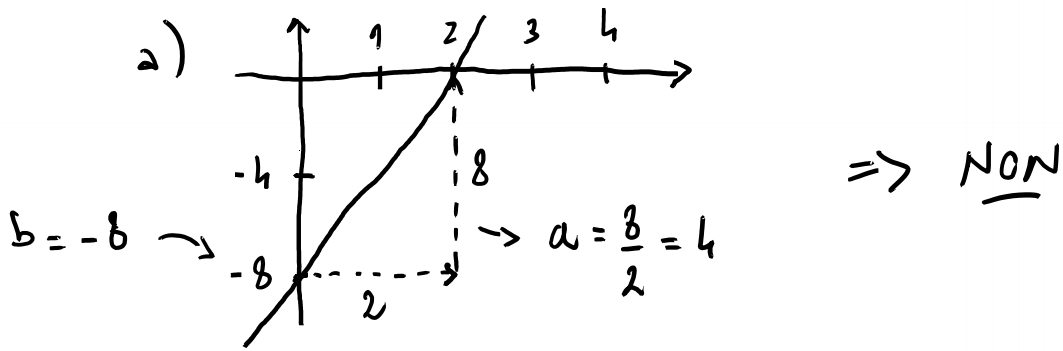
$$-3x \geq -6$$

$$x \leq \frac{6}{3}$$

$$S = ]-\infty; 2] \Rightarrow 2 \in S$$

Donc 2 est solution de l'inéquation c

Question 2:  $f(x) = 2x - 8$        $a = 2$      $b = -8$



Ex 7:  $f(x) = ax + b$

$$f(2) = 2a + b = 4 \Rightarrow b = 4 - 2a$$

$$f(4) = 4a + b = 5$$

$$4a + 4 - 2a = 5$$

$$2a = 1 \Rightarrow a = \frac{1}{2} \Rightarrow b = 4 - 2 \times \frac{1}{2} = 3$$

$$\text{Donc } f(x) = \frac{1}{2}x + 3$$

Ex 8:

$3x - 5 > 0$	⊕	$4 - x > 0$	⊕
$3x > 5$	↓	$-x > -4$	↓
$x > \frac{5}{3}$	à droite de $\frac{5}{3}$	$x < 4$	à gauche de 4

Tableau de signe:

$x$	$-\infty$	$\frac{5}{3}$	$4$	$+\infty$
$3x - 5$	-	0	+	
$4 - x$		+	0	-
$(3x - 5)(4 - x)$	-	0	+	0

Ex 9:  $x^2 - x - 20 = 0$      $a = 1$      $b = -1$      $c = -20$

$$\Delta = b^2 - 4ac = (-1)^2 - 4 \times 1 \times (-20) = 81$$

$$x_1 = \frac{-b - \sqrt{\Delta}}{2a} = \frac{-(-1) - 9}{2} = \frac{1 - 9}{2} = -4$$

$$x_2 = \frac{-b + \sqrt{\Delta}}{2a} = \frac{-(-1) + 9}{2} = \frac{1 + 9}{2} = 5$$

$$\Rightarrow S = \{-4; 5\}$$