

Ex. 3.3.23

a)  $2x+5 \geq 1$

$\Leftrightarrow 2x \geq -4$

$\Leftrightarrow x \geq -2 \quad \Rightarrow \underline{S = [-2; +\infty[}$

b)  $5-2x \geq 1$

$\Leftrightarrow -2x \geq -4 \quad | :(-2) \quad \triangle$

$\Leftrightarrow x \leq 2 \quad \Rightarrow \underline{S = ]-\infty; 2]}$

c)  $-4a-5 < a+5$

$\Leftrightarrow -5a < 10 \quad | :(-5) \quad \triangle$

$\Leftrightarrow a > -2 \quad \Rightarrow \underline{S = ]-2; +\infty[}$

d)  $-(7-2x)-8 > 0$

$2x-15 > 0$

$2x > 15$

$x > \frac{15}{2}$

$\Rightarrow \underline{S = ]\frac{15}{2}; +\infty[}$

e)  $1-3x \leq \frac{1}{3}x+2 \quad | \cdot 3$

$3-9x \leq x+6$

$-10x \leq 3 \quad | :(-10) \quad \triangle$

$x \geq -\frac{3}{10}$

$\Rightarrow \underline{S = [-\frac{3}{10}; +\infty[}$

f)  $3(1-x) > \frac{2}{5}x$

$3-3x > \frac{2}{5}x \quad | \cdot 5$

$15-15x > 2x$

$-17x > -15 \quad | :(-17) \quad \triangle$

$x < \frac{15}{17}$

$\Rightarrow \underline{S = ]-\infty; \frac{15}{17}[}$