EQUATIONS, INEQUALITIES AND SYSTEMS TEST

4º ESO

Exercise 1: **(3 ptos)** Work out:

a) $\left.\begin{array}{l} 3(x+5)-7(2x-1)\le x+10 \\ x^2-1>0 \end{array}\right\}$

b) $\left.\begin{array}{l} x^2-7x+6\le 0 \\ 16-x^2>0 \end{array}\right\}$

c) $\left.\begin{array}{l} 2x-y\le 0 \\ 3x+y>10 \end{array}\right\}$

Exercise 2: **(2.25 ptos)** Work out:

a) $\left.\begin{array}{l} xy=6 \\ 2x^2-y^2=-1 \end{array}\right\}$ (1.25)

b) $\left.\begin{array}{l} x-3y=1 \\ x^2-5y^2=29 \end{array}\right\}$ (1)

Exercise 3: **(1 pto)** The perimeter of a rectangle has a length of $40\ \text{cm}$, while its area measures $51\ \text{cm}^2$. Find its dimensions.

Exercise 4: **(3 ptos)** Work out:

a) $\sqrt{7x+1}+4=2x$ (0.75)

b) $\sqrt{x+3}+\sqrt{5+2x}=2$ (1.25)

c) $\dfrac{(x+3)^2}{(x+1)(x-1)}=\dfrac{8}{3}$ (1)

Exercise 5: **(0.75 ptos)** Solve $f(x)<0$, where $f(x)$ is the function given by the graph: