



**EQUATIONS, INEQUALITIES AND
SYSTEMS TEST - 4º ESO**



Exercise 1: (1 point) Find the dimensions of a rectangle if its perimeter has a length of 84 m and its area measures 437 m²

Exercise 2: (2.5 points) Solve:

$$\text{a) } \left. \begin{array}{l} xy = 30 \\ x^2 - 7y^2 = 37 \end{array} \right\} \quad (1.5)$$

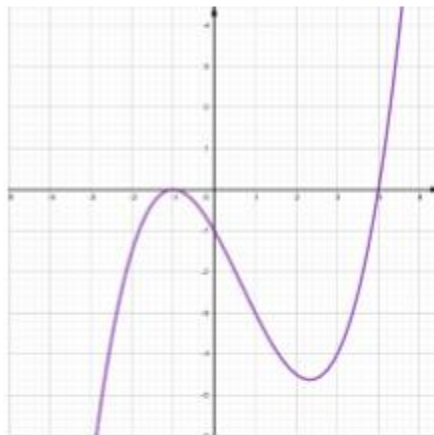
$$\text{b) } \left. \begin{array}{l} x - y = 8 \\ x^2 + 3y^2 = 148 \end{array} \right\} \quad (1)$$

Exercise 3: (2 points) Solve the following equations:

$$\text{a) } x + \sqrt{5x-1} = 5 \quad (0.75)$$

$$\text{b) } \sqrt{4x-4} - \sqrt{x-1} = 2 \quad (1.25)$$

Exercise 4: (0.75 points) Find the points where $f(x) < 0$:



Exercise 5: (3.75 points) Solve the following inequalities and systems:

$$\text{a) } \left. \begin{array}{l} x^2 - 5x < 0 \\ 2(x+3) - 4(3-x) \leq 1+x \end{array} \right\} \quad (1.25)$$

$$\text{b) } \left. \begin{array}{l} 1 - x^2 \leq 0 \\ x^2 - 4x + 4 > 0 \end{array} \right\} \quad (1.5)$$

$$\text{c) } (x-3)^2 - 5(1-x) \geq 3x-2 \quad (1)$$

