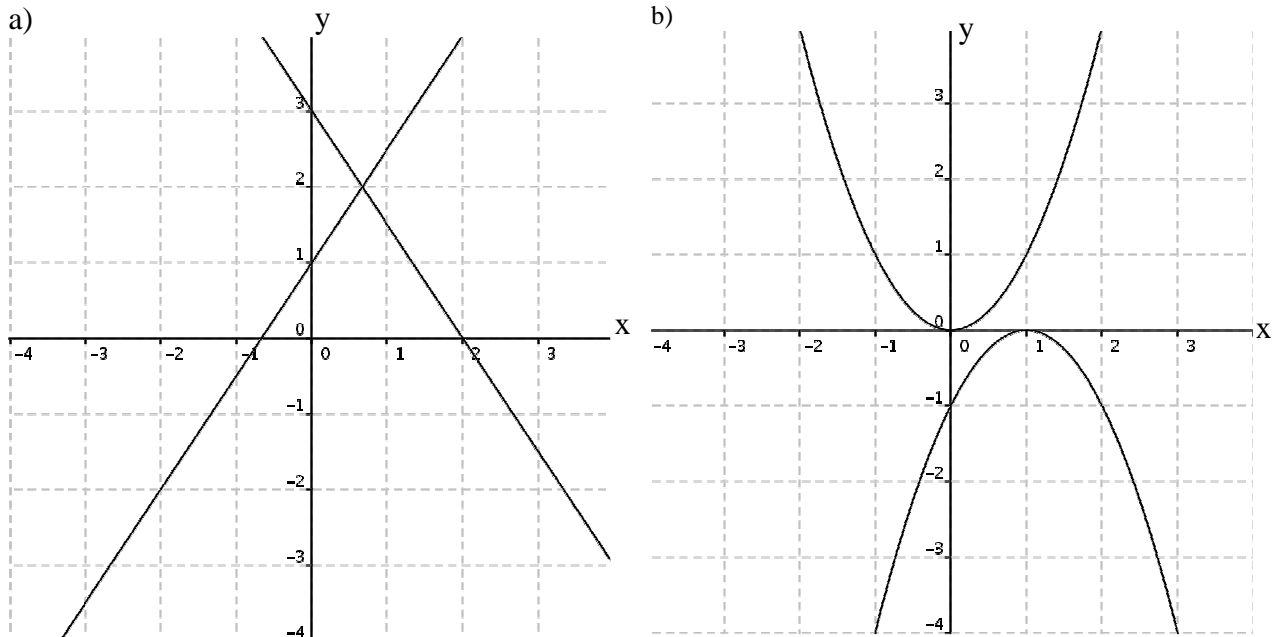


Subject 5
Functions

Please, don't write on the exam paper.

A) The following curves are parabolas, or straight lines. In each grid a pair of curves is represented.

Find an equation for each of them. Justify.



B] Optional (if you have time)

For $s \in [0, 1]$, we define the functions

$$f_s(x) = (1-s)x^2 + s(-(1-x)^2), \text{ and } h_s(x) = (1-s)\left(-\frac{3}{2}x + 3\right) + s\left(\frac{3}{2}x + 1\right)$$

- 1) Find the expressions of $f_s(x)$, and $h_s(x)$ for $s = 0$ and for $s = 1$.
- 2) What are the curves of f_s for $s \in [0, 1]$?
- 3) What are the curves of h_s for $s \in [0, 1]$?