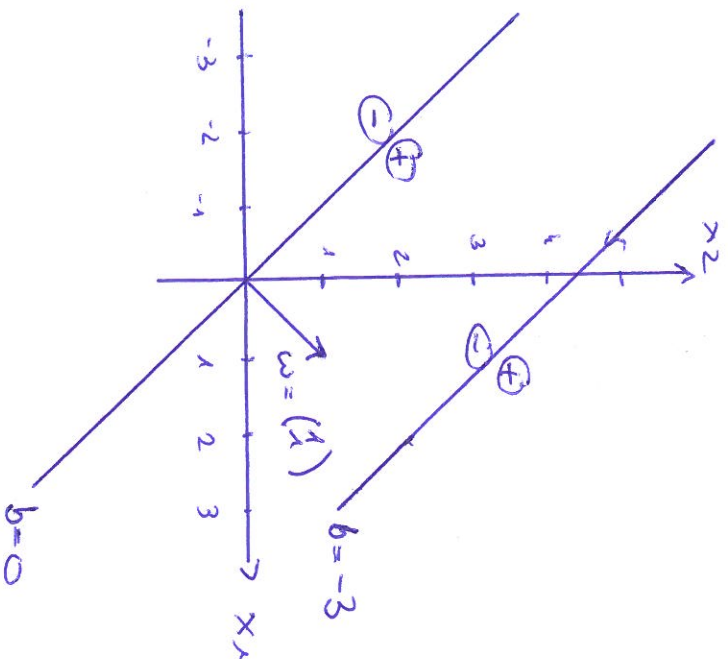


$$b) \quad f(x) = 0 \Leftrightarrow w^T x = -b \Leftrightarrow x_2 = -\frac{w_1}{w_2} x_1 - \frac{1}{w_2} b$$

This yields a linear classification boundary.

w is the normal vector of the boundary and b the ^{"shortest"} distance of the boundary to the origin.



$$c) \quad f(x) = 0 \Leftrightarrow \|x - c\|_p = r \Leftrightarrow \|x - c\|_p = r$$

For $p=2$ this yields a circle with center c and radius r .

For $p=1$ this yields a diamond with center c and corner points at a distance of r from c .

