

Problem 3.

$$a. \text{ dist}(x_0, w^T x + b = 0) = \frac{|w^T x_0 + b|}{\|w\|}.$$

$$b. \text{ dist}(w^T x + b_1 = 0, w^T x + b_2 = 0) = \frac{|b_2 - b_1|}{\|w\|}.$$