

CMPS 142: Homework Assignment 4

Jeffrey Petersen - 1329242

Peter Czupil - 1317993

Raymond Colebaugh - 1377877

May 18, 2015

1. (a) The probability that a point randomly drawn from p is located somewhere in the interval (z_ϵ, θ) is equal to ϵ . Thus the probability that a point falls outside this interval is the complement of the previous probability. Therefore, $p((0, z_\epsilon]) = 1 - \epsilon$.
 - (b) Assuming that the training set may contain duplicate x values, the probability that all points lie outside the interval $(z_\epsilon, \theta]$ is the product of the probability from part (a) for all x 's in the training set. Therefore $p(X \notin (z_\epsilon, \theta]) = \prod_{i=1}^N 1 - \epsilon = (1 - \epsilon)^N$
 - (c)
- 2.