

Name:

ID#:

Section: 455 or 555

2	8	10	

Directions – *The quiz is closed book/notes. You have 10 minutes to complete it; use this paper only.*

Problem 1: Recall (2pts) (Answer in one sentence only.)

What is boosting?

Problem 2: Work (8 pts) (Show all derivations/work and explain.)

In AdaBoost we combine M ‘weak learners’ to get an accurate classifier. During training, we need to select the data distribution wisely so that the classifier at each round is focusing on different sub-problems. According to AdaBoost, how should we choose the data distribution at each round?

How to combine the M classifier output to get the final prediction?

Now consider that we have a multi-class problem with lots of classes (≥ 100 classes), is it a good idea to directly apply AdaBoost on multi-class learners?