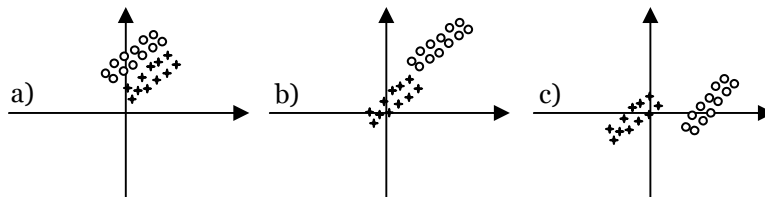


Name:

Student ID#:

Statistical Pattern Recognition (CE-725)
Department of Computer Engineering
Quiz #3 (Features) - Spring 2011

1.a (3 points) Consider the following three datasets:



For each dataset, which of three methods PCA, LDA and feature selection do you suggest for reducing dimensionality?

1.b (7 points) Which of the following would be a good objective function to use instead of Fisher's one and which of them not? Give 1 sentence explanations.

a) $J(v) = \frac{(\mu_1 - \mu_2)^2}{\sigma_1^2} + \frac{(\mu_1 - \mu_2)^2}{\sigma_2^2}$ b) $J(v) = \frac{(\mu_1 - \mu_2)^2}{\sigma_1^2 / \sigma_2^2}$ c) $J(v) = \frac{\sigma_1^2 * \sigma_2^2}{(\mu_1 - \mu_2)^2}$