Name: _____ Score (Out of 8 points):

1. (4 points) Let (X, d) be a metric space. Suppose that x, y are distinct points in X. Show that there exist **disjoint** open balls B_x, B_y in X that contain x and y, respectively.

2. (4 points) Let (X, d) be a metric space, and $x \in X$. Show that the set $\{x\}$ is a closed subset of X.