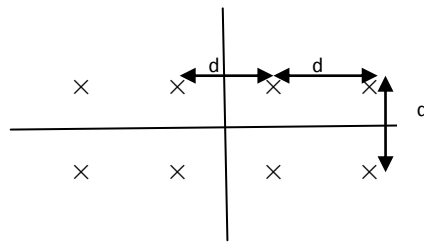# Tutorial

1. Consider the constellation given below
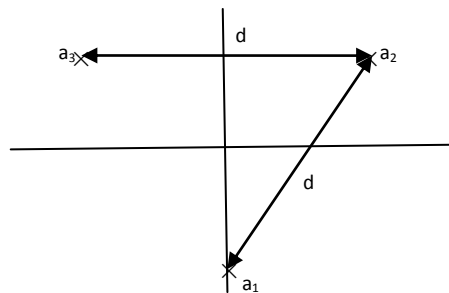

The average energy of the given constellation is (E_S)

Compute

    i.   d as a function of E_S and location of all points as a function of E_S

    ii.   Symbol Error rate as a function of (E_S/N_0)

2. Consider the 3 point constellation {a_1, a_2, a_3} with centroid (0,0) given below

    i.   If all symbols are equiprobable, compute the decision region

    ii.   Compute the decision region when $p(a_1)=1/4$, $p(a_2)=1/4$ and $p(a_3)=1/2$

3. Compute the decision region for the 8-point constellation given below when all the symbols are equiprobable