Sheet (6)

Cellular Communication System

1. A cellular network uses a frequency reuse factor of 9 and with 1000 channels available in the system. The radius of the cell is 1.5Km and the total coverage is 1200 Km.
   a. Calculate the i and j values used in deciding the frequency reuse factor.
   b. Find the total number of users that can be supported by the network.
   c. Draw the cellular constellation for such network.
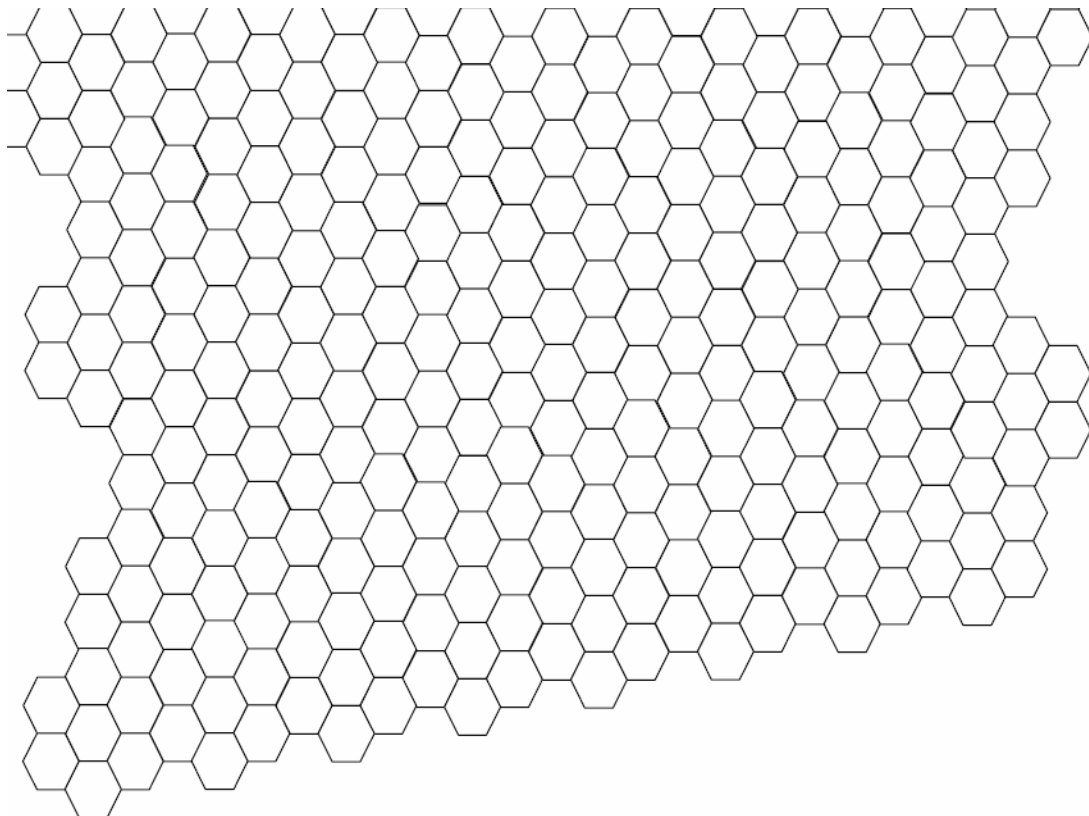
2. Repeat question one for frequency reuse 1, 3, 4, 12.
3. Calculate the SIR for a path loss 2 for each of the frequency reuse factors indicated above.