UNIVERSITY OF TEXAS AT DALLAS Department of Electrical Engineering

EE/TE 4367 - Telecommunications Switching & Transmission Solution #9

Date assigned:	4/17/2008
Date due:	4/24/2008

Solution 9.1

$$SIR = \frac{1}{6} \times \left(\frac{D}{R}\right)^{\gamma} = 100 \quad \rightarrow \quad \frac{D}{R} = \sqrt[3]{600} = 8.43$$

Solution 9.2

 $N = i^2 + j^2 + ij = 4$ pair of i=2 and j=0 gives N=4. So,



Solution 9.3

Propagation delay every hop=1000km/300000 km/sec=3.3 msec for each hop

Number of packets =64/2=32 packets

Packet size=(1024*2+32)*8=16640 bits

Total delay = (number of packets +number of hops)*(packet length/line speed) + total propagation delay

Total delay = (32+2)*16640/(50Mbps)+6.6 msec=17.91 msec