Please print out this form (two-sided, if you can) and write your answers *legibly* in the spaces provided. If you can't write legibly, type.

1. How does BGP's routing policies prevent packets from passing through the same AS more than one time?

2. Consider four ISPs, *A*, *B*, *X* and *Y*. *A* covers the west coast and is connected to *X* in Seattle and to *Y* in San Diego. *B* covers the southern US from Texas to the east and connects to *X* in Atlanta and to *Y* in Dallas. In *X*'s network, the shortest path from *A*'s network to *B*'s is 5000 miles long. In *Y*'s network, the shortest path from *A* to *B* is 1500 miles long.

   Consider a packet going from Portland, Oregon to Dallas. From *A*'s perspective, is it better to forward the packet through *X*'s network or *Y*'s?

   Is this the best choice from the user's perspective? Explain.

   Suppose that in addition to the above factors, X's network is well-provisioned with all of its links having a bandwidth of at least 10 Gb/s, while *Y*'s has no links faster than 1 Gb/s and is frequently overloaded. How does this change your answer to the last part?