Math 477, Lecture 6 class work

Name: _____

Net ID: _____

1. If two regular dice are rolled, what's the probability that at least one lands on a 5, if we know that they both land on different numbers?

2. If a couple has two children, what is the probability that they are both girls assuming that one of them is a girl?

3. If a couple has two children, what is the probability that they are both girls assuming that the older one is a girl?

4. Suppose that we have two dice, the first one being a regular die, and the second weighted so that half the time it rolls a 1, and half the time it rolls a 2 (it never rolls anything else). If we choose one of these dice at random, and roll a 1, what's the probability that it is the regular die?

5. If two dice are rolled, let A be the event that the results of the two rolls add up to 7, and let B be the result that one die has an even number the the other has an odd number. Are A and B independent?

6. If two dice are rolled, let A be the event that the results of the two rolls is less than or equal to 4, and let B be the result that one die has an even number the the other has an odd number. Are A and B independent?