A Cat, a Parrot, and a Bag of Seed:

Only two out of three of the items are safe together. That is the cat and the seed. The cat will not eat the seed; he will only eat the bird. The goal is not only to get each item across the lake safely; it was also to not leave the wrong two items together alone on either side. The visible constraints are not leaving the cat alone with the bird; and not leaving the bird alone with the seed. The sub goals are to get each item across one at a time. In order to do that first the bird will have to be taken across. Then the seed will have to go next; followed by the cat. These solutions will be effective for all temptation for one of the items to be eaten will be removed. I came to this conclusion by first considering the threat each item posed to the other. After writing this down I chose to move the bird first because the cat would not eat the seed. After this was done I could safely remove the seed and the cat one after another since there was no obvious threat of the cat eating the seed.

Sock in the Dark:

There are 20 socks and the problem only confirms that there will be 3 matching pairs. There will be two black pairs and two white pairs. The other possible pairs are unknown. I need to figure out how to get all the matching pairs. The one constraint is that I must do this using the least amount of socks. The sub goals are to find at least one matching pair, and one pair in each color. I believe by taking all 20 of the socks out of the drawer I will achieve a matching pair in each color. Once I have all of the socks I will have all of the matches; therefore, this solution will accomplish each of my goals.