1. Socks in the Dark

“There are 20 socks in a drawer: 5 pairs of black socks, 3 pairs of brown and 2 pairs of white. You select the socks in the dark and can check them only after a selection has been made. What is the smallest number of socks you need to select to guarantee getting the following:

a) At least one matching pair

b) At least one matching pair of each color.”

1. Define Problem
2. Break problem Apart
3. Identify Potential Solutions
4. Evaluate Potential Solutions
5. Choose a Solution
6. Predicting Fingers
7. Define Problem
8. Break problem Apart
9. Identify Potential Solutions
10. Evaluate Potential Solutions
11. Choose a Solution

1) Define the problem

a)Do this in

your own words.

b)What insight can you offer into the problem that is not immediately visible from

the word problem alone?

c)What is the overall goal?

2)Break the problem apart

a)What are the constraints?

b)What are the sub

goals?

3)Identify potential solutions

a)For each of the sub

problems you’ve discussed in #2, what is a possible solution?

4)Evaluate each potential solution

a)Does each solution meet the goals?

b)Will each solution work for ALL cases?

5)Choose a solution and develop a plan to implement it.

a)Explain the solution in full.

b)Describe some test cases you tried out to make sure it works.

(You can include drawings and diagrams as part of your explanation as long as they are clearly communicating the solution)