A Cat, A Parrot, and a Bag of Seed

1. Define the problem
2. The problem is transporting the items across the river without leaving the wrong items together.
3. Looking at the problem, the greatest insight I can offer is the lack of logic and context offered. The question does not describe the size of the items. Nor does it take into account that one of the items has the ability to cross the river without the need for the boat.
4. The overall goal is to have all of the items on the other side of the river.
5. Break the problem apart
6. The constraints are the items that can be left together and the size of the boat.
7. The sub-goals are not leaving the wrong items together and successfully getting both items to the other side of the river.
8. Identify potential solutions
9. There are many possible solutions to this issue. For instance, the man could take multiple items if he was to hold one in his lap. Another solution is to take the seed and the cat and allow the parrot to fly across the river.
10. Evaluate each potential solution
11. Each solution does meet the goals expressed. By using logic, the man would be able to transport all items with no issues.
12. Choose a solution and develop a plan to implement it
13. The solution I would use would be as follows. I would load the bag of seed on to the boat. I would then take the cat and hold it on my lap. I would make my way across the river with these items in the boat. I would allow the parrot to fly across the river, thus eliminating the need to leave any item on the opposite shore.
14. I was not able to actually test this solution given my lack of a boat, a bag of seed and a parrot. I am confident this solution would work without testing the solution though.

Socks in the dark

1. Define the problem
2. The problem is trying to find a matching pair of socks without the ability to see which ones I am pulling out of the drawer.
3. One bit of insight I can offer into the problem is whether or not the socks are already matched. If so, this would negate the need to pull out multiple socks in hopes of getting a matching pair.
4. The overall goal is to find a matching pair of socks and a matching pair of each color socks.
5. Break the problem apart
6. The constraints are that the lights are off and there are multiple colored socks to be paired.
7. The sub-goals are to pull out the least amount of socks and have matching pairs
8. Identify potential solutions
9. I can think of several solutions that would simplify this issue. First, turn on the lights. Another option is to pair your socks before putting them in the drawer. Another solution is to put the colored socks in different drawers.
10. Evaluate each potential solution
11. Each of the solutions discussed would meet the goals as outlined in the question.
12. These solutions would work for every scenario presented.
13. Choose a solution and develop a plan to implement it
14. Let us say that no light is available. The solution I offer is to pair the socks before putting them away. This would negate the need for removing so many socks from the drawer.
15. I was able to test this solution, and it works well. I also tried putting the different colored socks in different drawers, which also worked.

Predicting fingers

1. Define the problem
2. The problem as described here is deciding which finger each count will be on.
3. One bit of insight I offer is whether the girl uses her right hand to continue her counts. The question states she starts with her left hand, but does not state whether she uses her other hand at all.
4. The goal is to predict which finger each count will be on
5. Break the problem apart
6. The constraints are that the little girl is using one hand (assumingly) and keeps reversing direction.
7. The sub-goals are to figure out which fingers each count lands on.
8. Identify potential solutions
9. The easiest solution I can come up with is to count out each number myself.
10. Evaluate each potential solution
11. The solution would meet the goal as outlined in the question.
12. This solution would be acceptable to use for each part, though it would become time consuming.
13. Choose a solution and develop a plan to implement it
14. My solution would be to count out each count on my fingers.
15. I did test this solution out myself and did arrive at the solution for each count. The first count of 10 lands on the first finger. The second count of 100 lands on the ring finger.