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

The problem is that the man needs to transport each item across the river and he doesn’t have the space to do so in one trip. The man will have to have a solution that involves bringing one item at a time, but not leaving two items behind that will consume one another.

The constraints of the problem are limited to having space on the boat to only bring one item at a time with the man across the river. A second constraint is being able to leave two items alone while transporting across the river that could consume the other. The sub-goal will be evaluating what two items can be left behind and what two items can be left together on the other side.

The only potential solutions are to leave the cat and the seed together without one of the items being consumed. There are not any other options to pair the items together.

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).