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

1) Define the Problem

a) A man on a riverbank needs to transport three passengers to the other side of the riverbank. There is only enough room for him and one passenger at a time. If the man chooses to get the passengers across in the wrong order it could cause more problems.

b)

c) He needs to transport all three of the passengers to the other side of the riverbank.

2) Break the problem apart

a) He can only carry one passenger at a time to the other side of the riverbank. He can’t leave the wrong ones alone together.

b) Pick the right passenger to carry to the other side.

3) Identify potential solutions

a) a possible solution would be the parrot would have to make three trips.

4) Evaluate each potential solution

a) yes

b) yes

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

a) In order to transport the cat, parrot, and seed to the other side of the riverbank without leaving the wrong ones together you have to first take the parrot over to the other side. Next you take the cat over, but you cant leave the cat and parrot alone so you bring the parrot back with you to get the seed. Next you drop off the parrot and take the seed to the other side with the cat. Finally you go back and get the parrot and take it to the other side.

**Socks In the Dark**

1) Define the Problem

a) I need to pick out at least one pair of matching socks while in the dark

b) pick the socks out the day before

c) I have to figure out the smallest amount of socks I need to select to guarantee a matching pair

and three matching pairs of each color.

2) Break the problem apart

a) There are 20 socks in all: 5 pair of black socks, 3 pairs of brown socks, and 2 pairs of white socks.

b) to pick a matching pair of socks and to pick a pair of matching socks from each color

3) Identify potential solutions

a) A possible solution would be to pick all 20 socks

4) Evaluate each potential solution

a) yes

b) yes

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

a) I choose to pick all 20 socks because this way you would be guarantee to pick 3 pair of matching socks from each color and a pair of matching socks from any color.