Nchukym Berry

A Cat, A Parrot and a bag of of Seeds

The problem, which is presented, is that the man needs to get himself and his belongings to the other side of the river. He is going to need to make multiple trips but he has to make the right decision in which belongings he should transport and in which order they should go.

Some other problems that could present themselves that are not visible or stated from the scenario is the possibility of the parrot flying away, how large the bag of seeds are and how they are packaged. Also, another problem is that is not stated in the problem how the man intends to keep the cat, parrot, and seeds contained while on the other side of the river. The overall goal is to get all three plus the man to the other side without losing any to the other.

The constraints in this scenario are the inability to travel with all three across the water, and not being able to leave one alone with the other.

The sub-goal is to safely get the man and his belongings across the water without any loss.

A solution for the possibility of the parrot flying away would be for the man to take some tree leaves and tie them together. He could then use some more leaves to make a mini cage that lays on the ground and stick the bird inside. By doing this, the man will have hidden the parrot which will keep the cat from eating it and keep the parrot from flying away.

A solution to keeping the cat and parrot contained while he is gone would be to utilize the leaves and a few sticks to build a sturdy leash for the cat. He could then tie the leash to a tree or use an extra stick to secure the leash into the ground.

EVALUATE:

These solutions do meet the goals. By securing the cat and hiding the parrot and securing the parrot, the chances of one eating the other are reduced.

These will also work for each case, whether the seeds, or the cat are taken over the water first.

SOLUTION AND PLAN:

The solution is for the man to take some extra time and build a cage for both the cat and the parrot. First, he will take the parrot on the boat and build the cage for the parrot as described. Next he will go back and bring over the cat and build a secure cage or leash so the cat does not wander or get to the parrot. Lastly, he will go back and get the bag of seeds.

In order to test this solution, what I did was used a simple drawing plan. Knowing that the cat is a danger to the parrot and the parrot is a danger to the seeds, the plan was to figure out how two can be alone together without harming the other. This is the best solution.

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Socks in the Dark:

Next Problem:

The problem can be broken down as followed:

A person is trying to pick out socks while it is dark in the room. The objective is to find a numbered amount of matching socks successfully while it is dark in the room.

A problems that could occur which are not immediately addressed in the scenario is:

The person could be color-blind

THE CONSTRAINTS:

The constraint is the limited or lack of light, which would allow this person to select matching socks.

SUB-GOALS:

To find at least one pair of matching socks in each color.

To select a specific number of socks and have an outcome of at least one matching pair in each color.

SOLUTIONS:

A solution to the lack of light would be to choose 13 socks. Although it is dark in the room, dark and light socks would be apparent. So if someone chooses 13 socks there is a possibility that there would be at least 1 pair of white seeing as there is only 2 pair of white socks.

EVALUATE:

This solution does fit all goals. There are more black socks than any other color. 13 socks would guarantee at least 1 pair in each color.

This solution will work for each case.

DEVELOP A PLAN:

If the person choses 13 socks, by using a hue estimation they will successfully pick one of each. If it is dark in the room, what the person would do is allow heir eyes to adjust. Next, choosing 13 socks, what they would do is to compare socks in the dark. The ones that appear lighter would go into a pile. They should do this until they have 4 socks. Next choosing 9 more socks, what they would do is use the hue estimation again.

To test this method, what I did was went into my room last night and chose 20 socks as described in the scenario (I don’t have brown so I used black and white, and purple)

I created the same scenario, 5 pair black, 3 pair purple, and 2 white.

I then tested my hue estimation by comparing (in the dark) light socks against dark socks. When I was done, I found that I had chosen 3 pair of black socks, 1 purple, and 1 white. The rest where all mitch matched.

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Predicting Fingers

THE PROBLEM:

The little girl is counting from her thumb to her pinky and then back with each finger being numbered 1-5 backward 5-10. There is no telling how far she will count and on which finder she will land on when done counting.

Some problems that are not addressed are how high can she count, if she is tired and how old she is.

BREAK IT APART:

The constraints are that it is not said how old she is.

How high she will count

Or how high she knows how to count.

Th3e sub-goal is to determine which finger she will land on.

POTENTIAL SOLUTIONS:

A solution to the little girls age would be to assume that she is 5.

For the number she can count to we will say she can count up to 50

This is important because younger children tend to have a shorter attention span, therefor giving a set number will target how far she will count and ultimately say what finger she will land on.

EVALUATE:

This solution will work for all cases and it meets all goals.

SET A PLAN:

If the little girl counts up to fifty, we know that the first finger will be numbered 1. The pinky will be numbered 5. Counting this way 1-5 = all 5 fingers. Going backward pinky to thumb will end up being 20. If she continues this way she will land on the thumb.