

A Difficult Crossing

Problem-of-the-Week

The Problem

A man, a fox, a goose, and some corn are together on one side of a river. The man finds a boat, but it will carry only himself and one of the three items. How can he get everything across the river? The fox and the goose cannot be left alone together, because the fox will eat the goose. And, the goose and the corn cannot be left alone together, either. The fox will not eat the corn, so it is safe to leave them alone together. What is the minimum number of trips for this crossing?

Start



Finish



Strategies and Hints

1. Try using five small squares of paper so you can experiment by moving them back and forth across the river.
2. Describe each of your moves with an ordered pair. The first element is the number of things on the beginning side of the river; the second element is the number on the ending side.
3. After you have solved the problem, look to see if the number of things on the ending side increases with every move. Does it increase with every other move?