



## Problem of the Week

### Problem B

### Goats in a Boat?

Three goats and three bobcats want to cross a river from the south side of the river to the north side of the river.

All they have is a small boat which can carry exactly 1, 2 or 3 animals at a time. The problem is that if the bobcats outnumber the goats on either riverbank or in the boat, then bad things will happen to the goats.

Design a set of trips back and forth across the river so that all the animals end up on the north side together and such that the goats are never with more bobcats on either riverbank or in the boat. The table may help to organize your thinking.

SUGGESTION: Act out this problem with three student bobcats and three student goats.

Trip	Animals on South Side	In the Boat	Animals on North Side
0	3G, 3B		0
1		→	
2		←	
3		→	
4		←	
5		→	
6		←	

