Math 331: Problem Solving Steven J Miller (sjm1@Williams.edu)

Second Remote Participation Lecture April 26, 2017 **RECTANGLE GAME:** Consider M x N board, take turns, each turn can break any piece along one horizontal or along one vertical, last one to break a piece wins. Does someone have a winning strategy?



	Move	#1's Money	#2's Money	#1's Bid	#2's Bid
tic tac toe	1				
	2				
T I	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				

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T I	3				
	4				
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	9				
	10				
	11				
	12				
	13				

Castle game: Have castles labeled 1 through 10 (label is value), divide 100 soldiers to attack the castles against an opponent, whomever sends more to a castle wins it. What strategy is best to get more points than opponent?

	Costlo 1	Costlo 2	Costlo 2	Castla 4	Castla F	Castla C	Castle 7	Costlo 9	Castle 0	Castla 10
	Castle 1	Castle 2	Castle 3	Castle 4	Castle 5	Castle 6		Castle 8	Castle 9	Castle 10
Team 1										
_										
Team 2										
Outcome	5									

	Castle 1	Castle 2	Castle 3	Castle 4	Castle 5	Castle 6	Castle 7	Castle 8	Castle 9	Castle 10
Team 1										
Team 2										
Outcome	9									

	Castle 1	Castle 2	Castle 3	Castle 4	Castle 5	Castle 6	Castle 7	Castle 8	Castle 9	Castle 10
Team 1										
Team 2										
Outcome	9									
