

Homework 11

Name _____

Roulette is a casino game where a steel ball is dropped into a spinning disk. The ball then lands in one of 38 numbered slots. The slots on a roulette wheel are numbered 1 to 36. Half of these are colored red and half are black. There is also a 0 slot and a 00 slot, colored green. There are a variety of bets that can be placed on outcome of the wheel.

1. For each bet, find the probability of winning and losing, and the expected value. Be sure to keep as much accuracy as possible in the intermediate calculations. Use Excel if you want.

Bet	Probabilities	Net Gain	Expected Value
18-number bets: red, black, odd, even, high, low	W:	1	
	L:	-1	
	Total expected value for this bet =>		
12-number bets: 1 st dozen, 2 nd dozen, 3 rd dozen, columns	W:	2	
	L:	-1	
	Total expected value for this bet =>		
6-number bets: line bets	W:	5	
	L:	-1	
	Total expected value for this bet =>		
5-number bet: 0,00,1,2,3	W:	6	
	L:	-1	
	Total expected value for this bet =>		
4-number bets: corner bets, square bets, quarter bets	W:	8	
	L:	-1	
	Total expected value for this bet =>		
3-number bets: street bets	W:	11	
	L:	-1	
	Total expected value for this bet =>		
2-number bets: split bets	W:	17	
	L:	-1	
	Total expected value for this bet =>		
1-number bets: straight-up bets	W:	35	
	L:	-1	
	Total expected value for this bet =>		

2. Which is (are) the best bet(s) to make?

3. Which is (are) the worst bet(s)?

4. Assuming you make the best bets, what is the expected % payback?