

HOMEWORK ASSIGNMENT # 4

ASSIGNED: OCTOBER 8, 2009 DUE: OCTOBER 22, 2009

Calculate each of the conditional probabilities of the random variables in the questions below. You may want to consider the roulette wheel and/or table shown below.



		0		00	
1 - 18	Even	-1st 12-	1	2	3
			4	5	6
			7	8	9
19 - 36	Odd	-2nd 12-	10	11	12
			13	14	15
			16	17	18
		-3rd 12-	19	20	21
			22	23	24
			25	26	27
			28	29	30
			31	32	33
			34	35	36
		2 to 1	2 to 1	2 to 1	

- (1) $P(\text{the spin is an odd number} \mid \text{the value is a red number})$
- (2) $P(\text{a spin of the wheel is red} \mid \text{the result is even})$
- (3) $P(\text{a spin of the wheel is red} \mid \text{the result is in the 2nd 12 and odd})$
- (4) $P(\text{a spin of the wheel is red} \mid \text{the result is greater than 26 and odd})$
- (5) $P(\text{the spin is greater than 20} \mid \text{the value is a red number})$
- (6) $P(\text{the value is an even number} \mid \text{is on the arc between (including) 9 and 30 which does not include 0})$
- (7) $P(\text{is on the arc between (including) 32 and 34 which does not include 0} \mid \text{the value is an even number})$
- (8) $P(\text{the value is an odd number greater than 28} \mid \text{the value is a red number})$

Note to be clear: the phrase “is on the arc between (including) 9 and 30 which does not include 0” are the numbers $\{9, 31, 14, 20, 1, 33, 16, 24, 5, 10, 23, 8, 30\}$ and the phrase “is on the arc between (including) 32 and 34 which does not include 0” represents the numbers $\{32, 15, 19, 4, 21, 2, 25, 17, 34\}$.