1

(a)

With only two bidders (people), there are four combinations (0,0) (0,1) (1,0) (1,1) so

bids	probability	expectation
0,0	1/4	0
0,1	1/4	0
1,0	1/4	0
1,1	1/4	1/4

(b)

bids	bid price	probability	expectation
0,0,0	0	1/8	0
1,0,0	0	1/8	0
0,1,0	0	1/8	0
0,0,1	0	1/8	0
1,0,1	1	1/8	1/8
1,1,0	1	1/8	1/8
0,1,1	1	1/8	1/8
1,1,1	1	1/8	1/8

(c)

This is interesting because based on the tables above, we can find that as the number of bidders increase, then, the probability is 1/ 2^N, they can choose 0 or 1. 1 / 2^(N-1) will converge to 0 and the expectation (expected revenue) will converge to 1 in contrast.

2

(a)

bids	winner	probability
(0,0)	A/B	1/2 * 1/4 = 1/8
(1,0)	A	1/2 * 1/4 = 1/8
(0,1)	B	1/2 * 3/4 = 3/8
(1,1)	A/B	1/2 * 3/4 = 3/8

(b)

$E(x) = 0 * 1/8 + 0 * 1/8 + 0 * 3/8 + 1 * 3/8 = 3/8$