### **Instructions**

Thank you for participating in this experiment in decision making! You will obtained 4 Euros for having come to the experiment—those 4 Euros are yours to keep independently of the outcomes in the experiment. In addition, you will be compensated with whatever you earn during the experiment according to the procedures described in the instructions.

The instructions will be read to you in a short while. You may consult these instructions at any time during the experiment. In case you should have any questions or doubts, please raise your hand and an experimenter will come and assist you in private.

Please consider each decision carefully. Take a careful look at outcomes and the probabilities associated to them before taking a decision. Remember that your final payoffs from this experiment will depend on the decisions you make (and of course, on chance).

Please remain seated when you are finished with the tasks. This experiment consists of two parts. Once everybody has finished the tasks in part I, new instructions will be read to you for part II. At the very end of the experiment, you will be asked to fill out a questionnaire. The answer to the questionnaire as well as all your answers to the tasks will be private, and cannot be traced back to you personally. Once you are done filling in the questionnaire, an experimenter will call you up. Your payoff will then be determined in private, you will be given the money you won, after which you can leave.

Do not talk during the experiment, or you will be immediately excluded from the experiment!

Good luck!

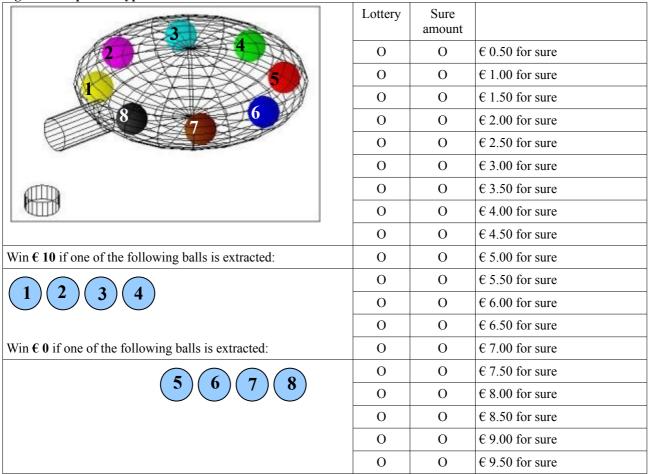
#### PART I

#### Choice tasks

In the present experiment, you will be asked to choose repeatedly between a fixed amount of money and a lottery. The lottery will always give you a chance to win one of two amounts of money. Figure 1 shows a typical choice task. You are asked repeatedly to choose between playing the lottery and obtaining a sure amount of money. **For each row**, you are asked to indicate whether you would prefer to play the lottery or to obtain the sure amount of money by ticking the preferred option.

The urn indicated in the figure contains eight numbered balls. One ball will be extracted from the urn to determine your payoffs in case you should play the lottery. In the lottery displayed, if ball 1, 2, 3, or 4 is extracted, you obtain €10; if ball 5, 6, 7, 8 is extracted, you obtain nothing. Please pay close attention to the amounts to be won as well as the number of balls associated with each outcome, since they change across decisions.

Fig. 1: Example of a typical decision task



We are interested in the amount for which you will switch from preferring the lottery to preferring the sure amount. Most likely, you will begin by choosing the lottery for small sure amounts, and at a certain point switch to the sure amount as the latter increases. If you do not want the lottery at all, you can choose to get the sure amount in the first row and then continue with the sure amount for all choices (if you prefer €0.50 over the lottery you should also prefer €1.00 over the lottery, etc.). Where you will switch from the lottery to the sure amount depends entirely on your preferences—there are no right or wrong answers. However, you should NOT switch back and forth several times between lottery and sure amount! You will be excluded from the experiment if you do so or if it is not possible to clearly recognize your preference (for example, if you have not ticked any box for a given row or ticked both boxes for a given row).

#### Types of choices

You will be asked to take 18 decisions, for each one of which you will need to decide between a lottery and a series of sure amounts as exemplified in figure 1 above. **Please pay close attention to the amounts to be won as well as the number of balls associated with each outcome!** Indeed, both the higher and lower amount, as well as the number of balls, change between decision problems. Since your final payoff depends on these decisions, it is crucial for you to pay close attention to these features.

There are **two different types of lotteries** involved. Figure 2 below shows the two different types of lotteries that you will encounter. Fig 2a shows the urn already familiar from figure 1 above. It contains exactly eight (8) balls, numbered from 1 to 8.

In Urn in Fig. 2b also contains exactly eight (8) balls. However, you cannot see what numbers the balls contained in the urn have. This means that **you do not know the exact numbers that are present in that urn**. All balls bear a number between 1 and 8 inclusive (have either 1, 2, 3, 4, 5, 6, 7, or 8 written on them), but it is possible that some numbers are absent from this urn while others occur repeatedly. Thus you do not know the exact composition of the urn.

Fig. 2a: transparent urn

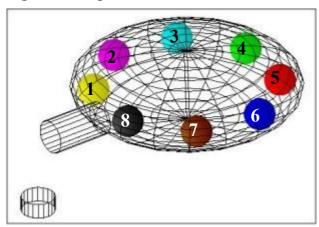
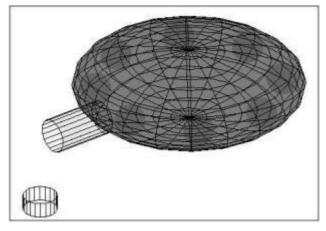


Fig. 2b: opaque urn

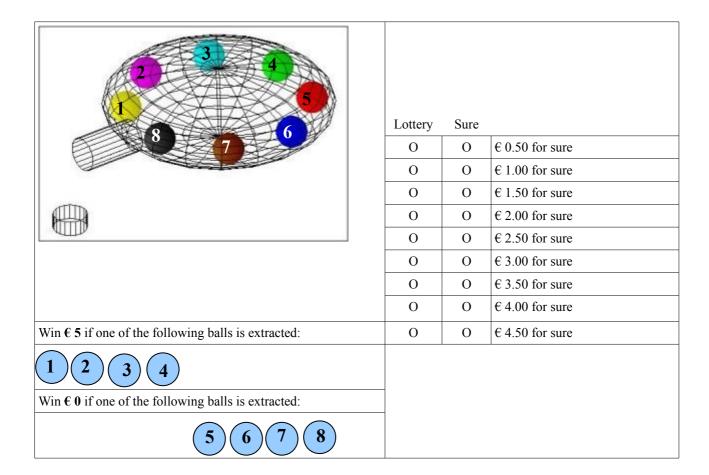


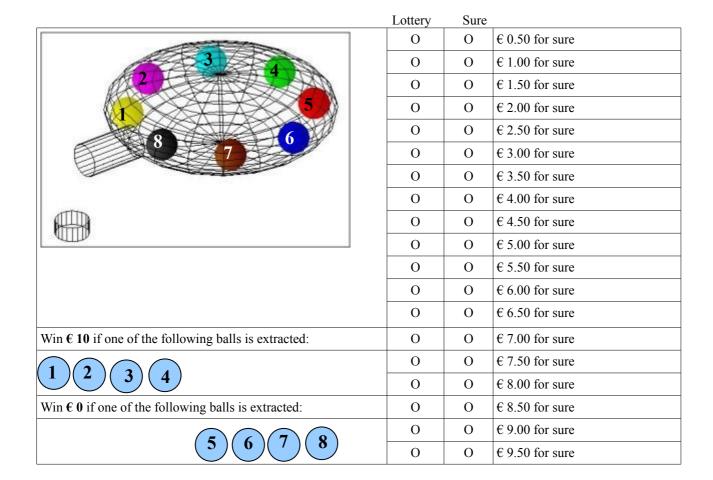
#### **Payoff determination**

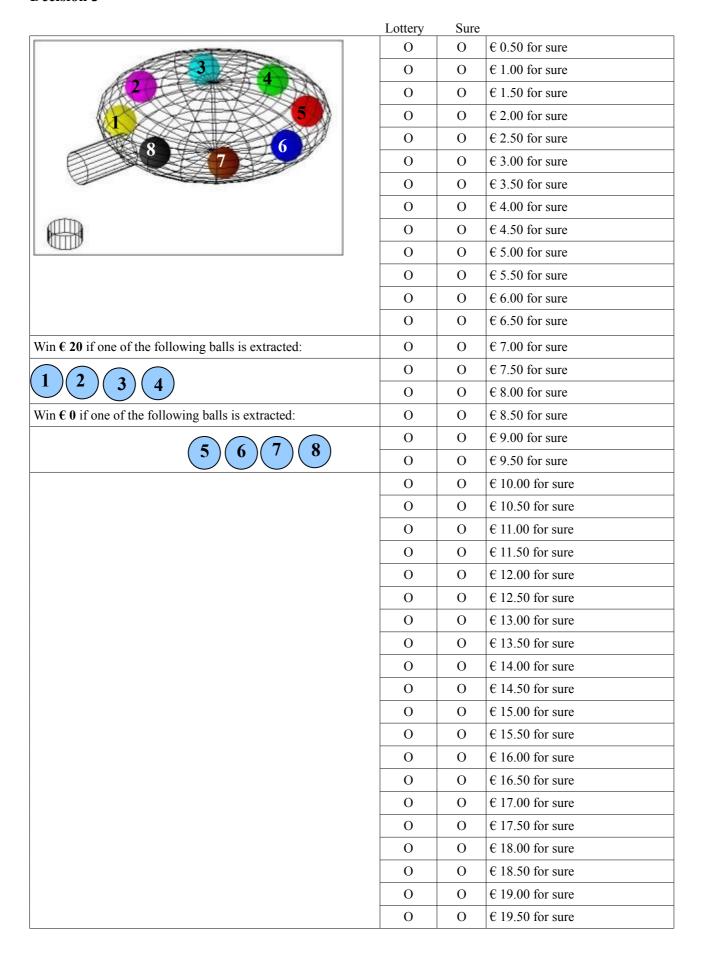
After you have taken all the decisions, one of your decisions will be randomly drawn for real pay, i.e. **the amounts indicated in the decision problem will be paid out for real**. First, either part I or part II will be selected for real play by a coin flip. If part I is selected, then one of the 18 decision tasks is drawn at random, using a chance device with equal probability for each decision task to be extracted. For the extracted decision task, one of your decisions, corresponding to one row for which you had to indicate your preference between the sure amount and the lottery, will then be drawn at random with **equal probability for each row**. If for the row that is drawn you have indicated that you prefer the sure amount of money, you will simply be paid that amount.

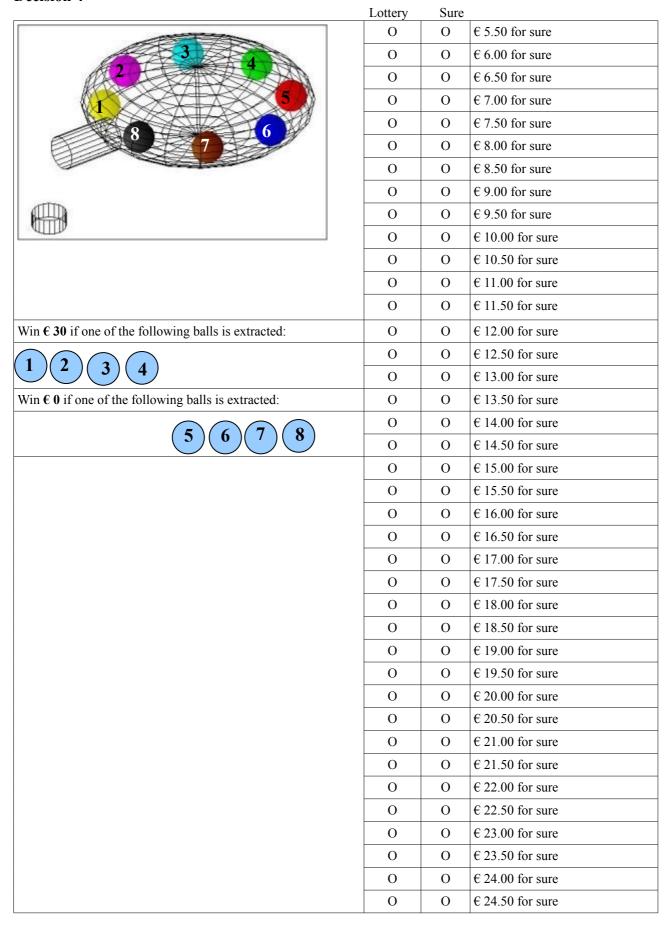
In case you have chosen the lottery for the randomly determined row, then that lottery will be played according to the probabilities indicated. For the transparent urn, this will involve drawing a ball from an urn in which all numbers from 1 to 8 inclusive are present. If you should desire to do so, you can verify that there are indeed all balls from 1 to 8 in the urn. You will then be paid the outcome corresponding to the ball you drew.

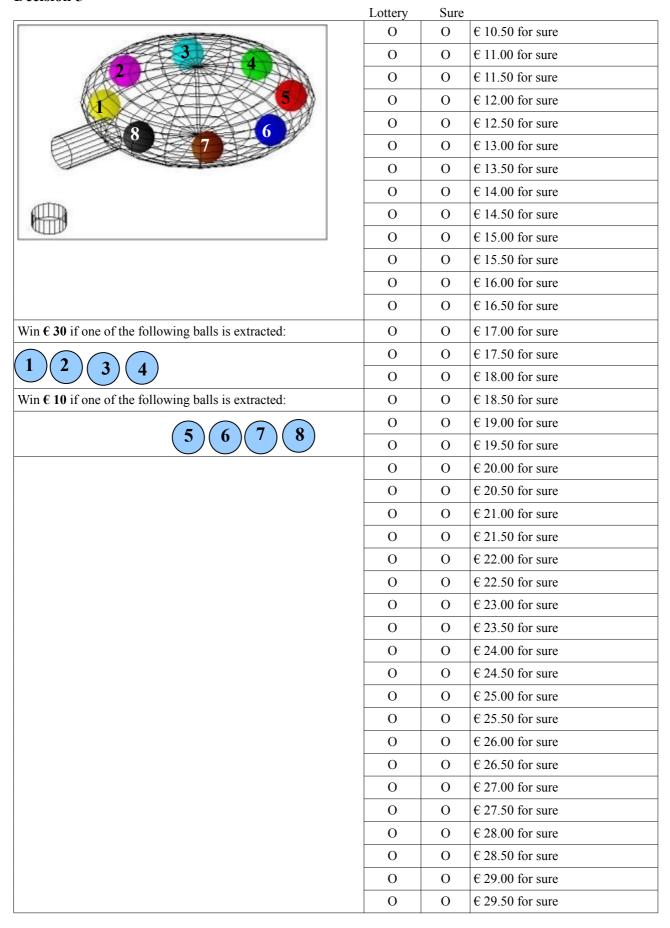
For the opaque urn, the procedure is exactly analogous, except that you will now draw a ball from a pre-composed urn, the exact composition of which you do not know. You will also be paid the outcome corresponding to the ball you drew. If you should desire to do so, after the draw you can verify that there are indeed 8 balls with numbers between 1 and 8 inclusive in the urn.

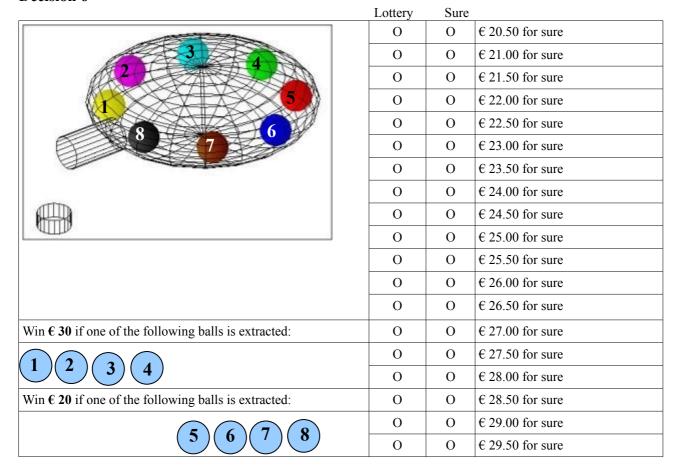


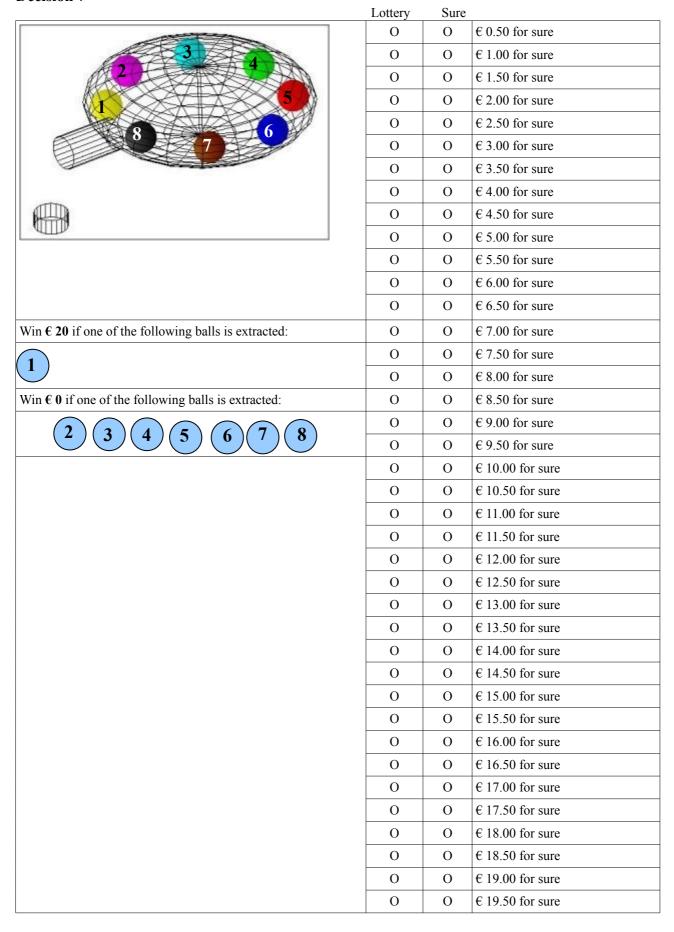


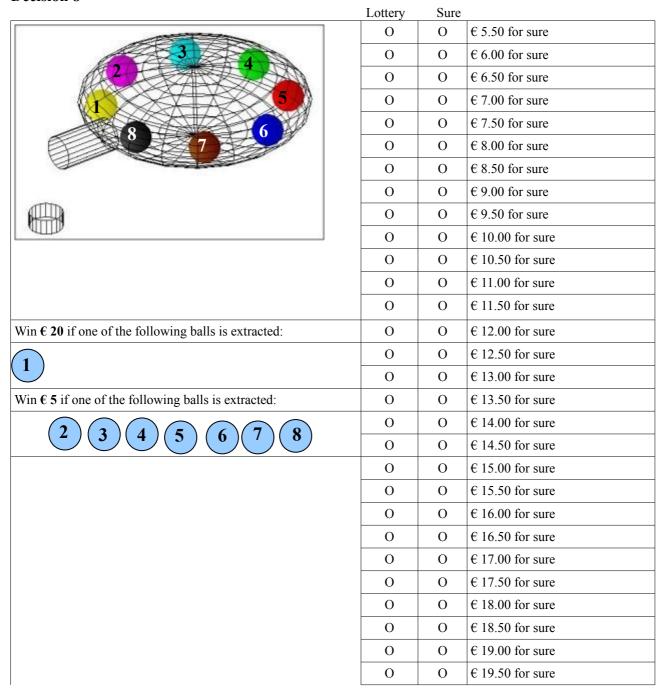


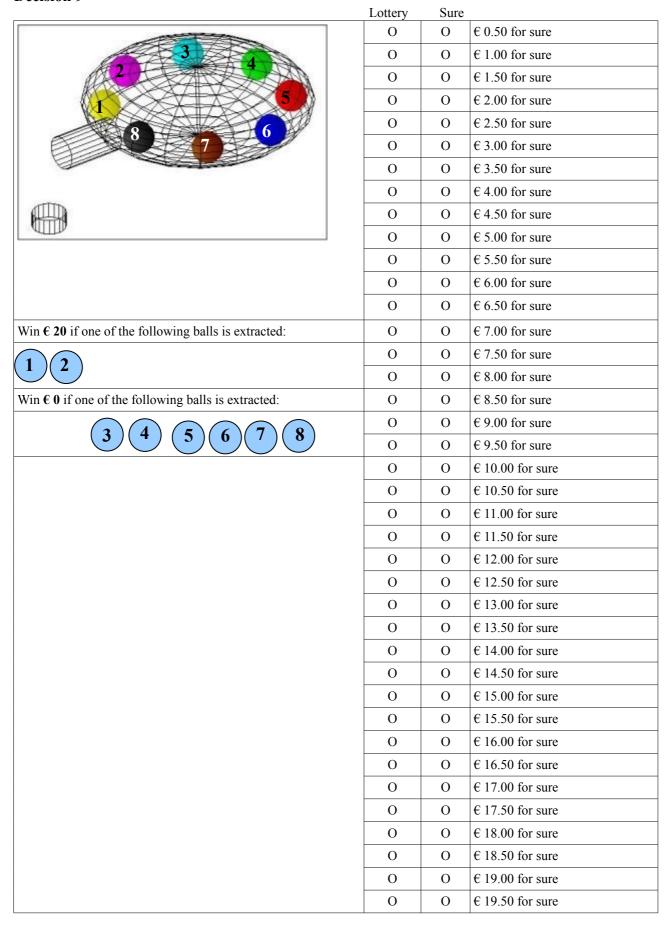


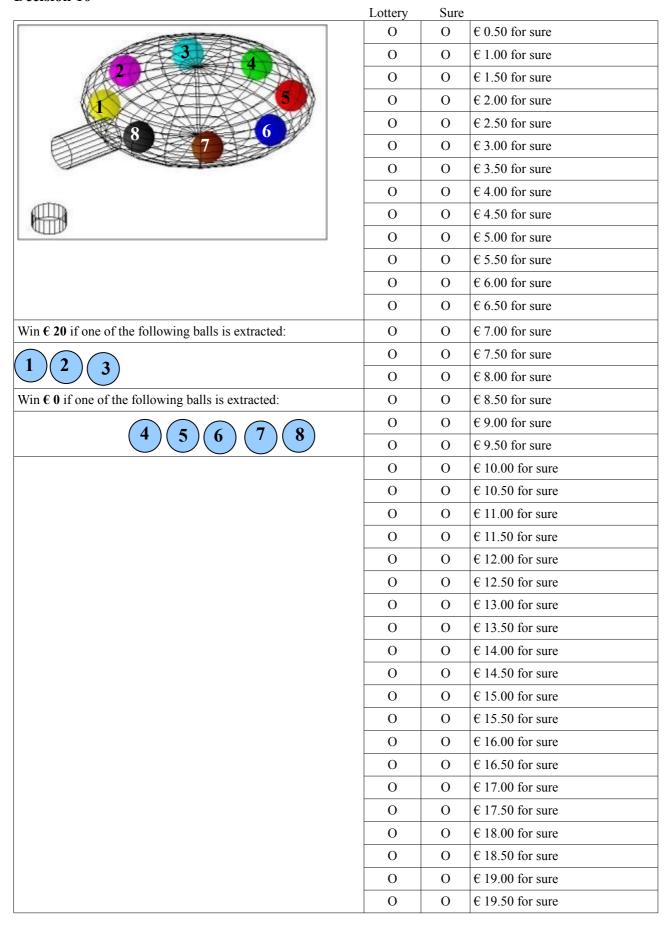


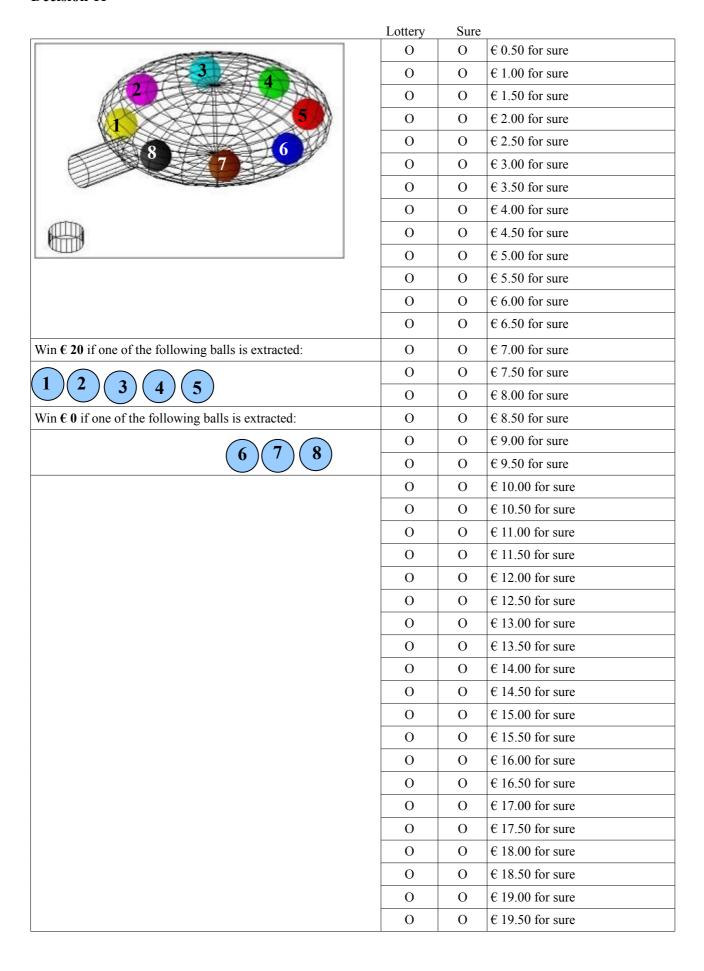


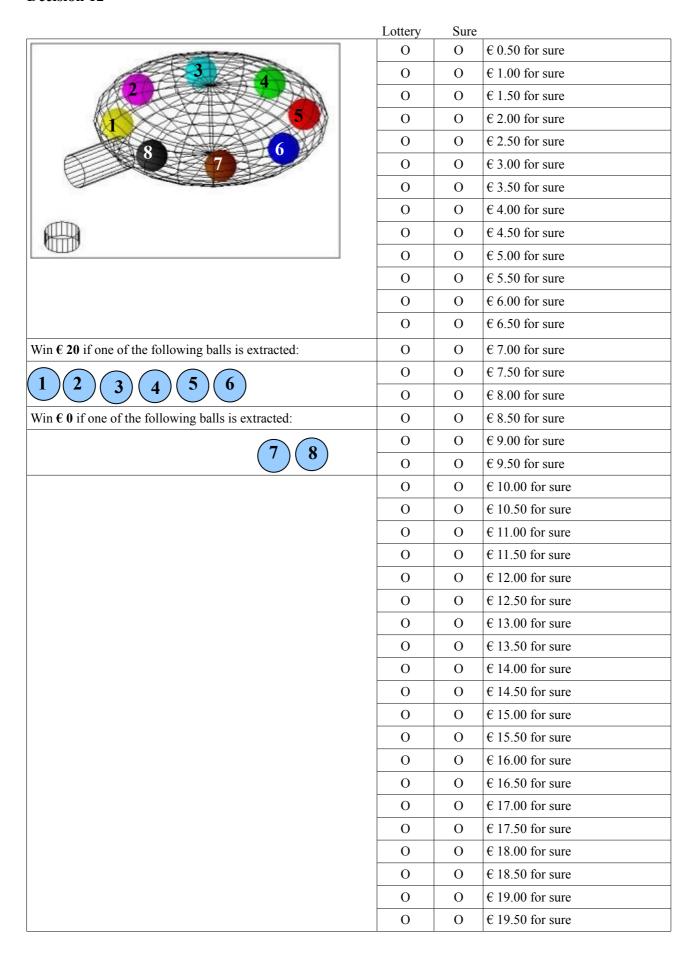


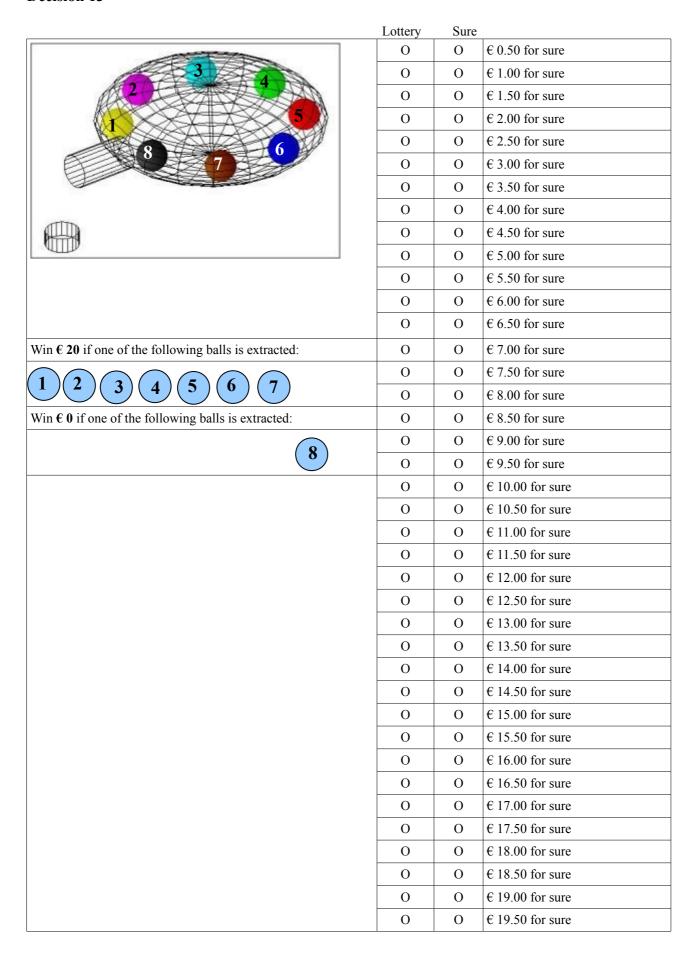


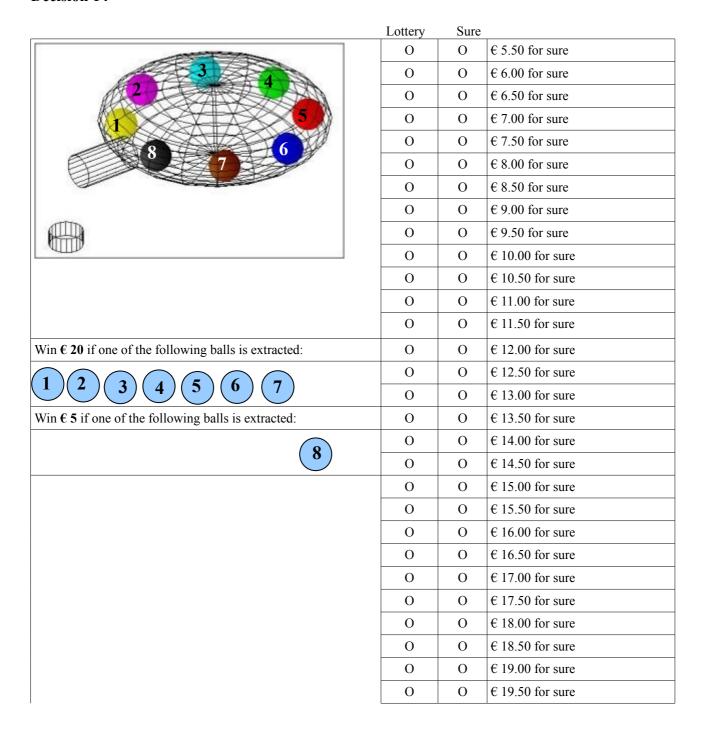


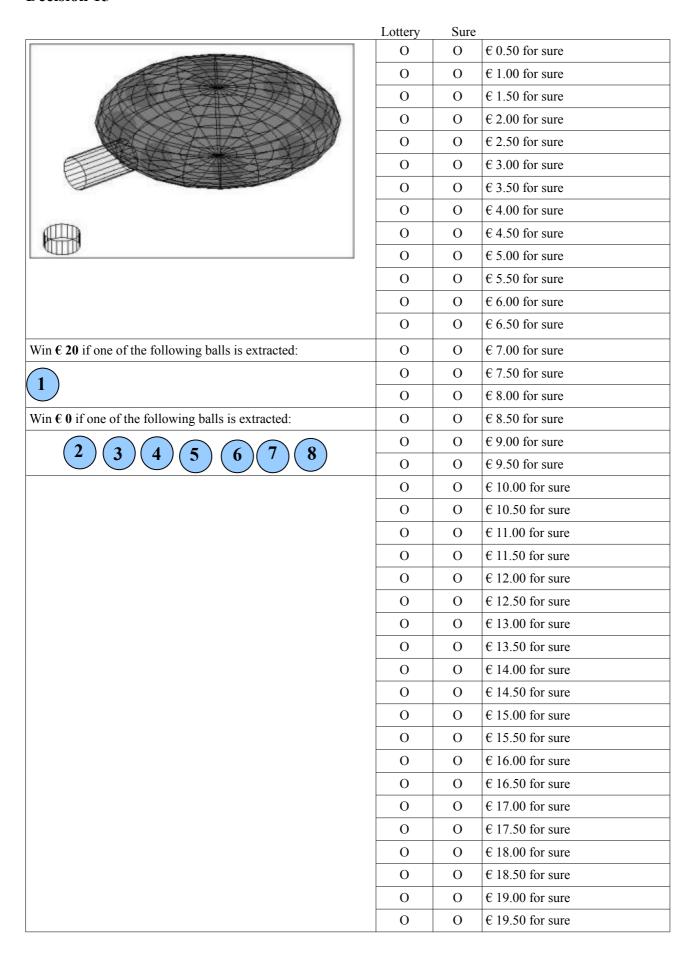


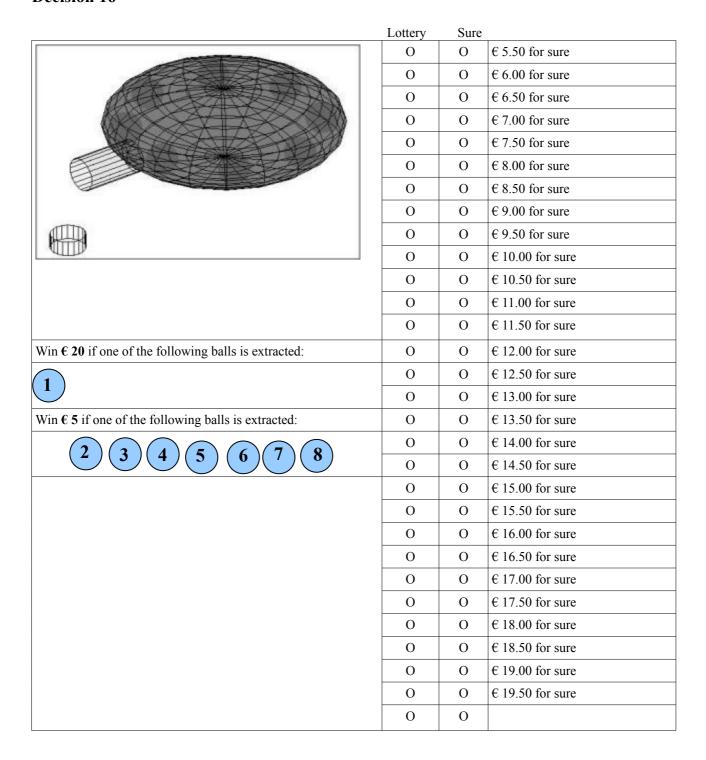


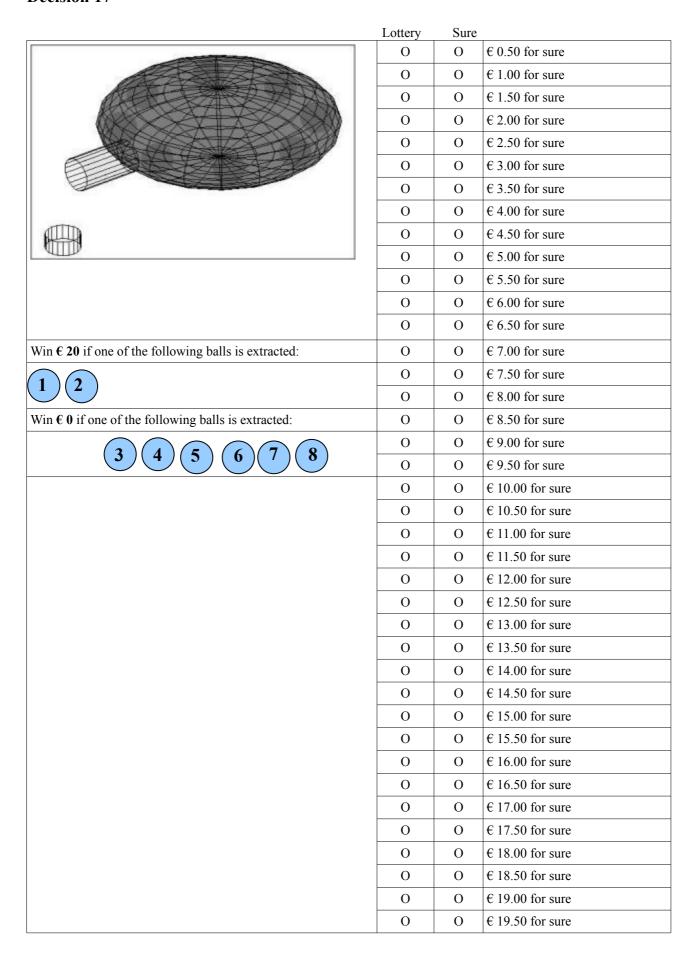


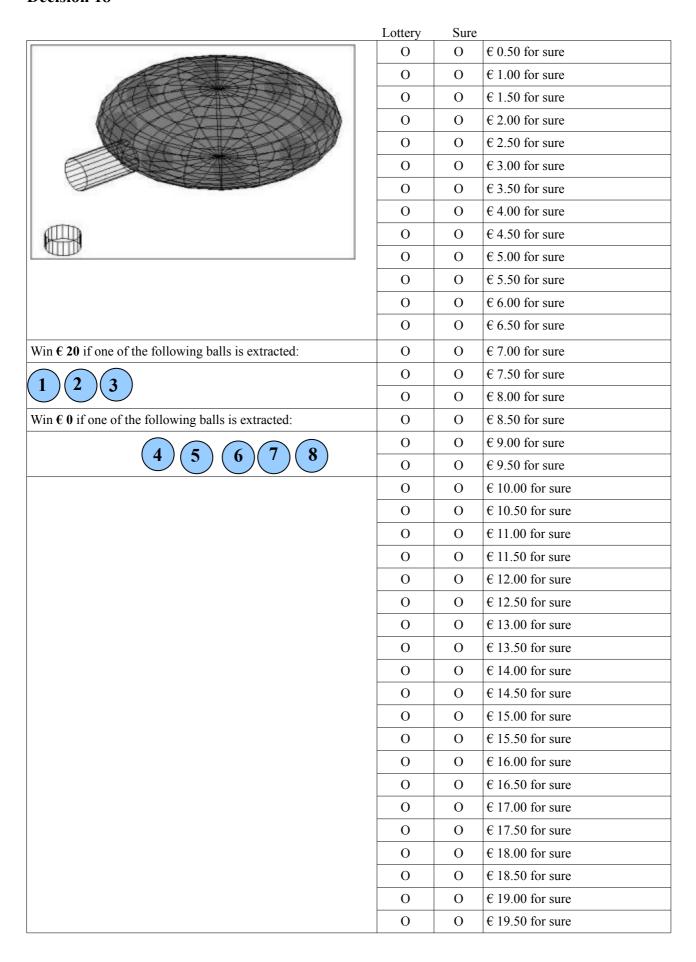


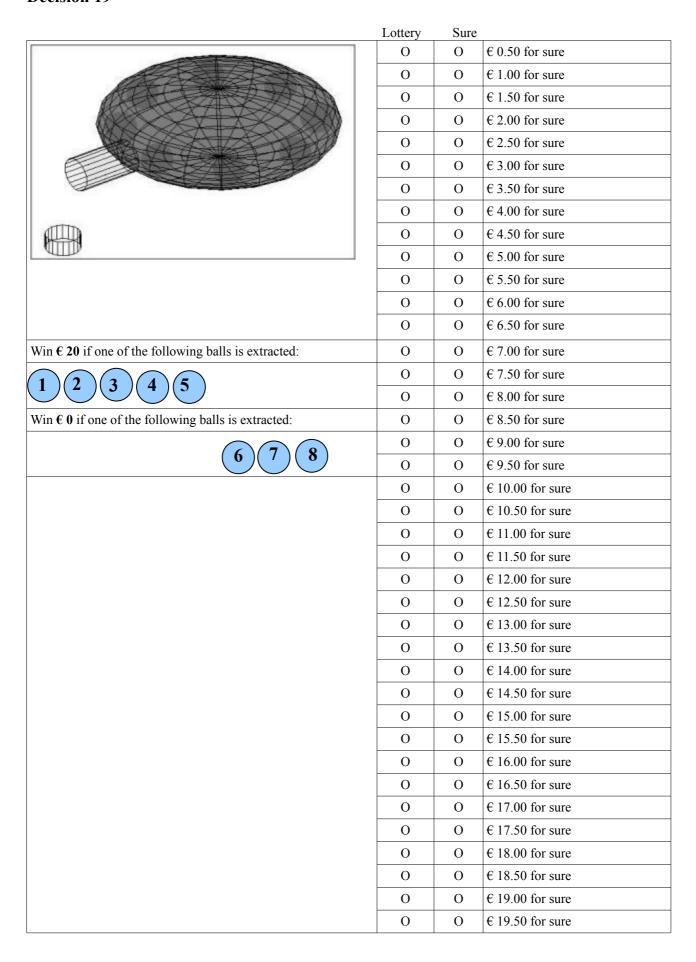


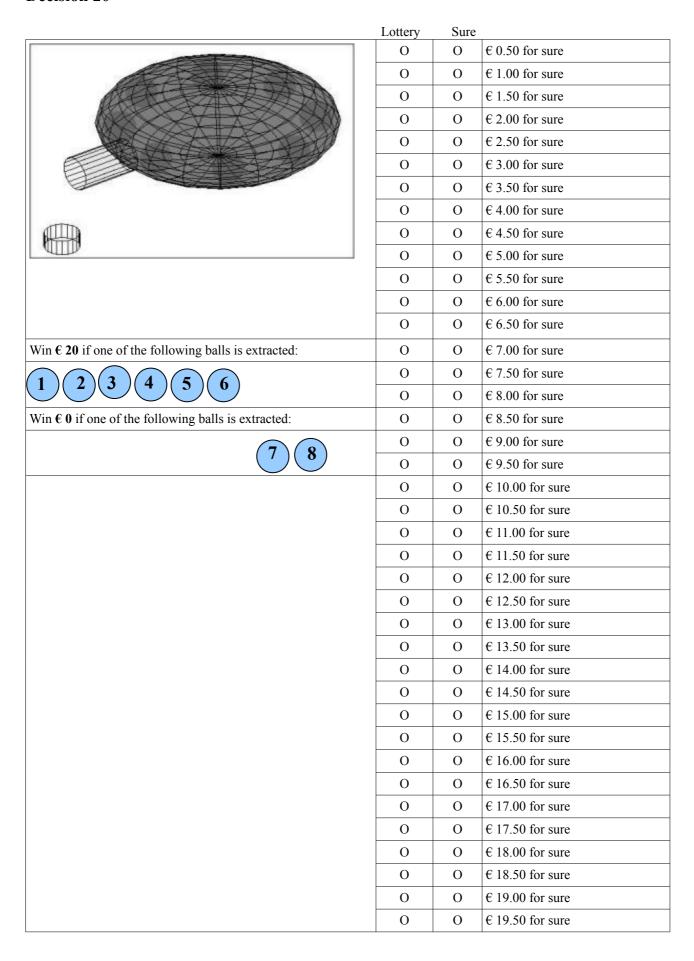


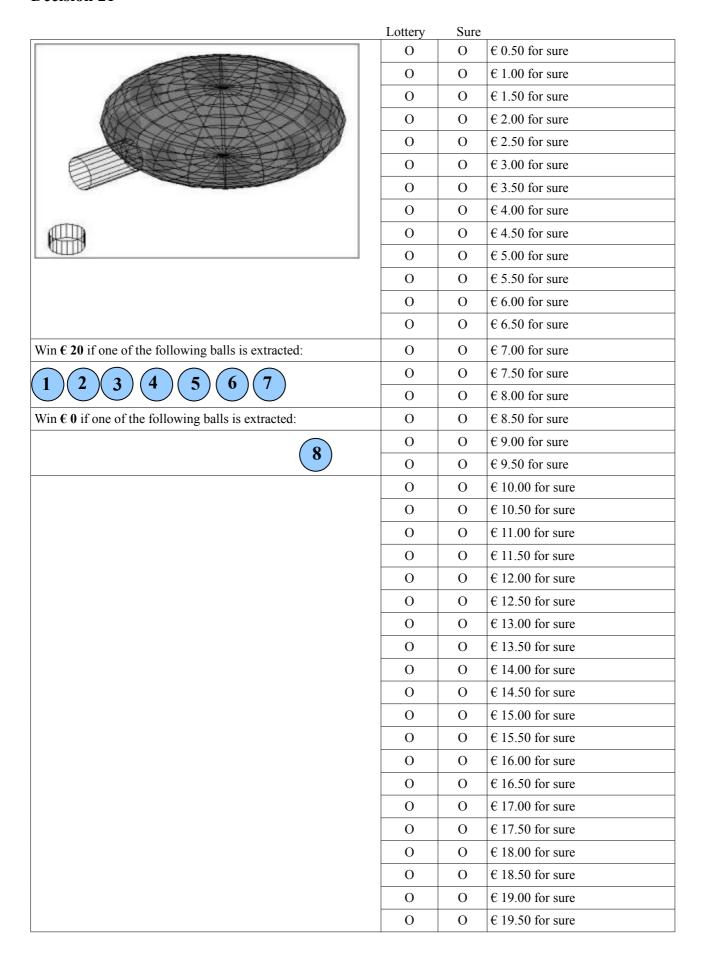


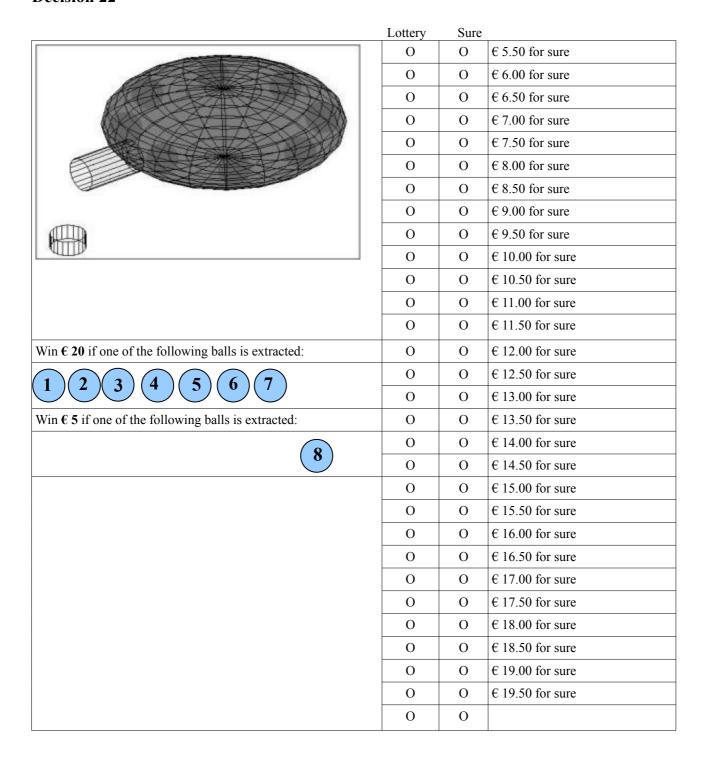












#### PART II

If part II should be chosen for real play, you are endowed with €20. These €20 are yours, but it is possible that you will lose part or all of the money in the experiment (but no more than that).

In part II you are again asked to repeatedly choose between the two types of lotteries you have already encountered in part I of the experiment and a series of sure amounts. However, the main difference now is that **the amounts involved are negative instead of positive**. Figure 4 shows an example of such a choice.

Fig. 4: example of a typical decision task from part II

rig. 4. example of a typical decision task from part if	rig. 4. example of a typical decision task from part if					
	О	О	– € 0.50 for sure			
3 4	О	О	– € 1.00 for sure			
	О	О	– € 1.50 for sure			
	О	О	– € 2.00 for sure			
8 7 6	О	О	– € 2.50 for sure			
	О	О	– € 3.00 for sure			
	О	О	– € 3.50 for sure			
		О	– € 4.00 for sure			
	О	О	– € 4.50 for sure			
<b>Lose € 10</b> if one of the following balls is extracted:		О	– € 5.00 for sure			
	О	О	– € 5.50 for sure			
1) $2$ $3$ $4$	О	О	– € 6.00 for sure			
		О	– € 6.50 for sure			
<b>Lose</b> € 0 if one of the following balls is extracted:		О	– € 7.00 for sure			
5 6 7 8		О	– € 7.50 for sure			
		О	– € 8.00 for sure			
		О	– € 8.50 for sure			
		О	– € 9.00 for sure			
	О	О	– € 9.50 for sure			

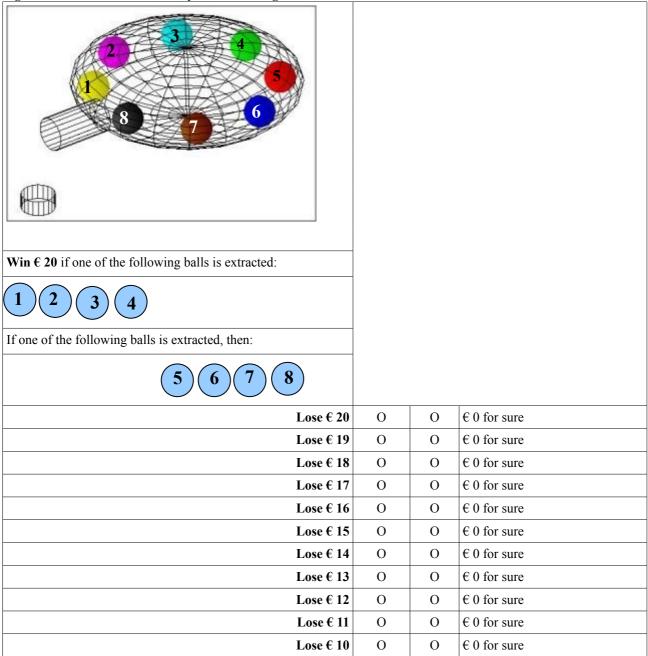
In the example displayed, you face the following lottery: if a ball with the number 1, 2, 3, or 4 is extracted, you lose  $\mathbf{e}\mathbf{10}$ . If a ball with the number 5, 6, 7, or 8 is extracted, you lose nothing. Please choose again for each row whether you would rather give up (i.e., <u>pay</u>) the sure amount indicated to the right or play the lottery.

Notice that, most likely, you will now **begin to the right** by choosing to give up the sure amounts as long as this implies giving up small amounts, and then switch to the lottery at a certain point. If you do not want to give up sure amounts at all, then in the first row you can choose the lottery and then continue with the lottery for all choices (if you are not willing to pay  $\in 0.50$  to avoid playing the lottery, then you should not be willing to pay  $\in 1.00$  to avoid it). Once again, when exactly you switch from the sure loss to the lottery depends entirely on your preferences—there are no right or wrong answers. However, **you should NOT switch back and forth several times between lottery and sure amount!** You will be excluded from the experiment if you do so or if it is not possible to clearly recognize your preference (for example because you have not ticked any box for a given row or ticked both boxes for a row).

In addition to the pure loss choices described above, you will also face some choices in which **both** 

**negative** <u>and</u> **positive amounts are involved**. Also, what changes is now not the sure amount to the right, which is always equal to zero, but rather the amount you can lose in the lottery. Figure 3 shows an example of this kind of choice problem.

Fig. 3: decision task where lottery amount changes

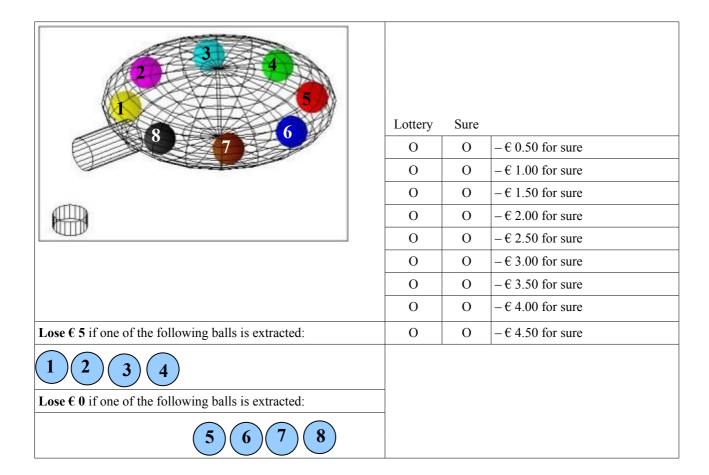


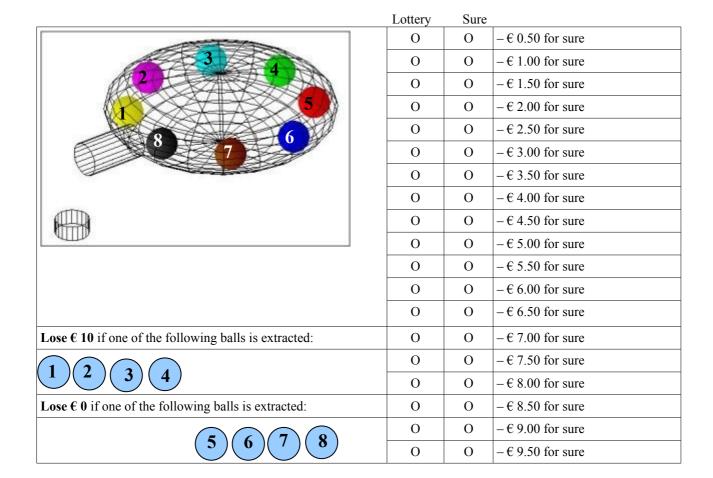
What is required of you in this task is exactly the same as for the other tasks. For each row, you should choose whether you prefer the sure amount to the right (which is now always zero), or the lottery to the left. Pay attention however: what changes is now the amount that can be lost in the lottery. Most likely, you would thus start from the right and choose zero for high losses, and then switch to the left as the losses in the lottery get smaller. You can however also start with the lottery and continue with it if that is your preference (if you prefer a lottery in which you can win  $\in 20$  or lose  $\in 20$  to zero, then you should also prefer the lottery when you can lose only  $\in 19$ ). When you switch from the zero sure amount to the lottery depends only on your preferences—there is no right or wrong answer. However, you should NOT switch back and forth several times between lottery and sure amount! You will be excluded from the experiment if you do so or if it is not possible to clearly recognize your preference (for example because you have not ticked any box for

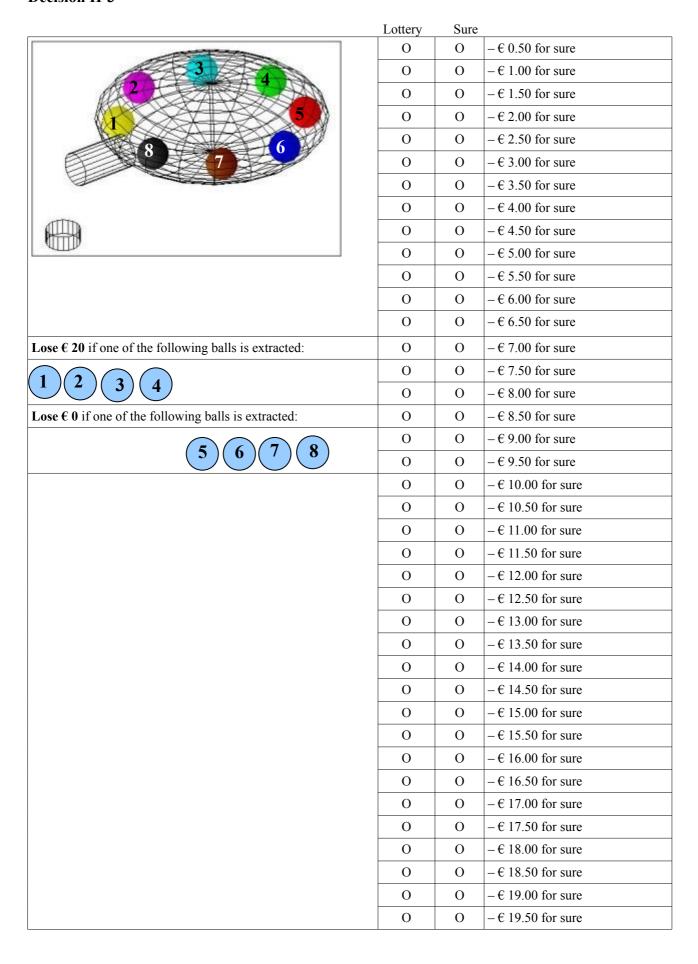
a given row or ticked both boxes for a row).

## **Payoff determination**

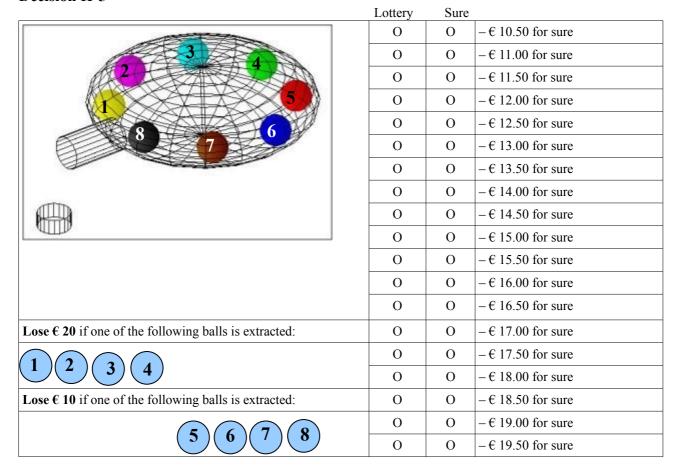
In case part II should be chosen for real play, your payoff from part II will be determined in a way analogous to the payoff determination in the first part. First, one of the decision tasks will be chosen at random, and then one of the rows for which you had to indicate a choice. In each case, **every choice task or row has an equal probability of being selected**. According to your choice, you are will then have to pay the sure amount, or the lottery will be played out by drawing a ball from the indicated urn.

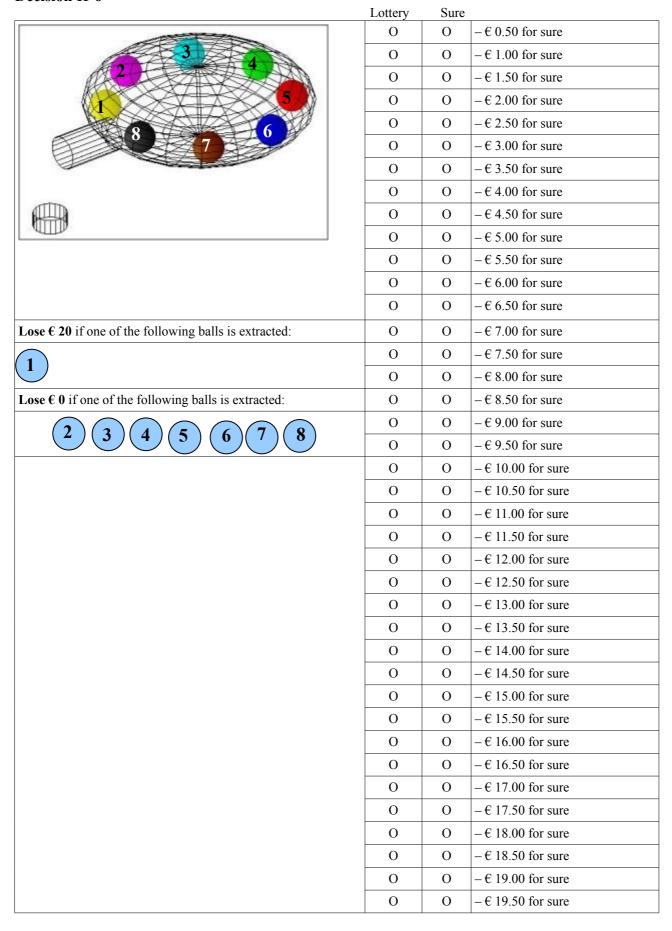


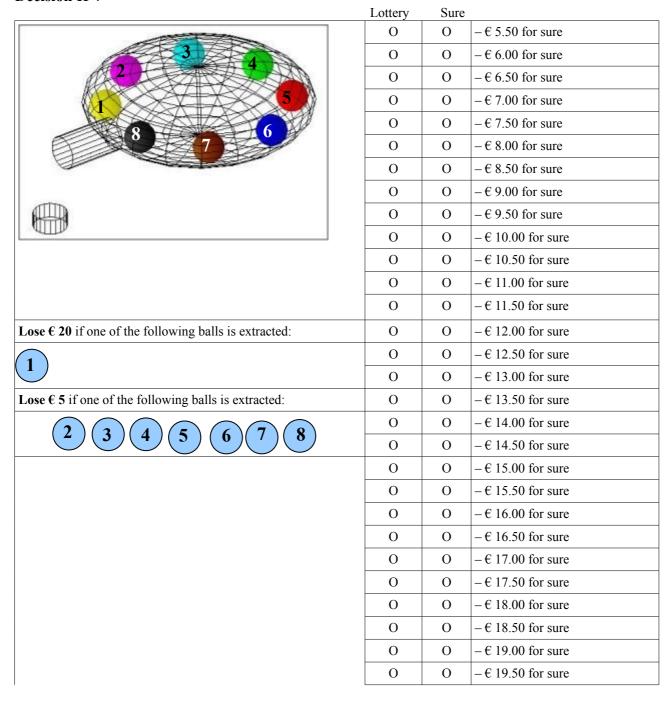


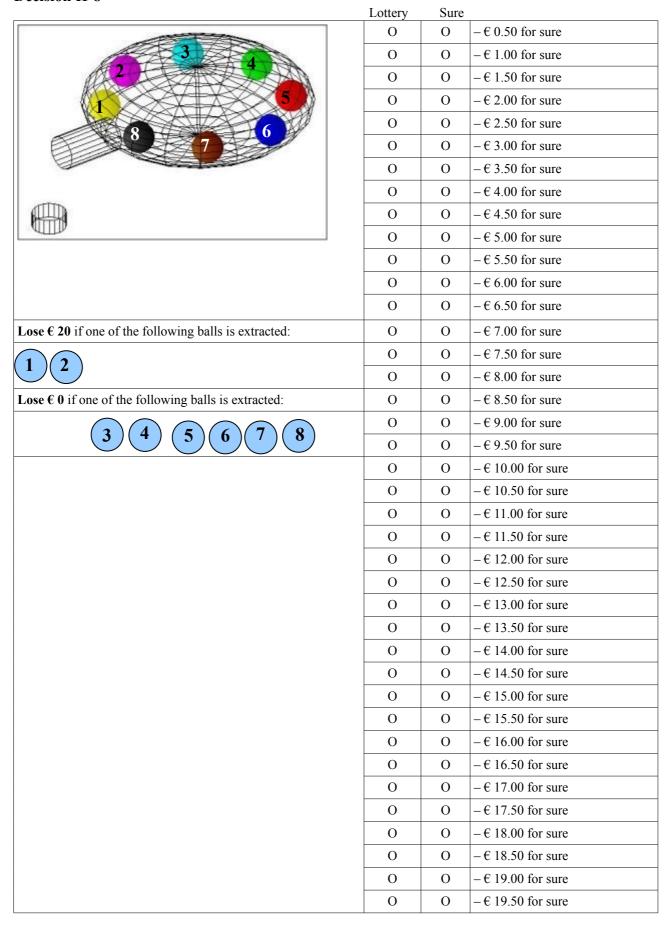


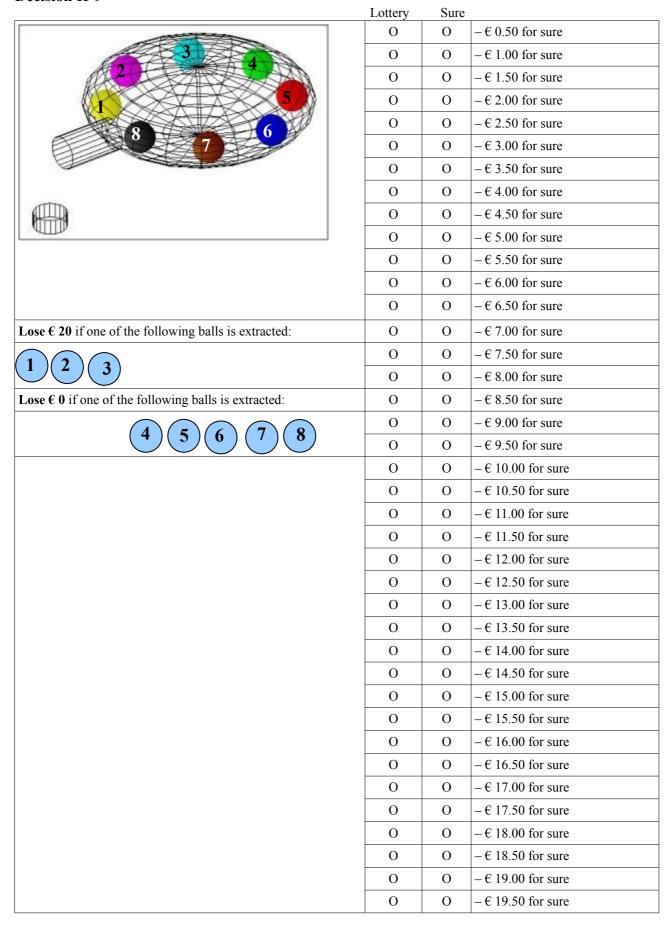
Decision 11-4	Lottery	Sure	
	О	О	_€ 5.50 for sure
3	О	О	– € 6.00 for sure
2	О	О	-€ 6.50 for sure
5	О	О	-€ 7.00 for sure
	О	О	-€ 7.50 for sure
7	О	О	-€ 8.00 for sure
	О	О	-€ 8.50 for sure
	О	О	-€ 9.00 for sure
	О	О	– € 9.50 for sure
	О	О	-€ 10.00 for sure
	О	О	– € 10.50 for sure
	О	О	– € 11.00 for sure
	О	О	– € 11.50 for sure
Lose € 20 if one of the following balls is extracted:	О	О	-€ 12.00 for sure
1 2 3 4	О	О	– € 12.50 for sure
1 $2 $ $3 $ $4 )$	О	О	-€ 13.00 for sure
<b>Lose € 5</b> if one of the following balls is extracted:		О	-€ 13.50 for sure
	О	О	-€ 14.00 for sure
(5)(6)(7)(8)	О	О	-€ 14.50 for sure
	О	О	-€ 15.00 for sure
		О	-€ 15.50 for sure
		О	-€ 16.00 for sure
		О	-€ 16.50 for sure
		О	– € 17.00 for sure
		О	– € 17.50 for sure
	О	О	– € 18.00 for sure
	О	О	-€ 18.50 for sure
	О	О	– € 19.00 for sure
	О	О	– € 19.50 for sure

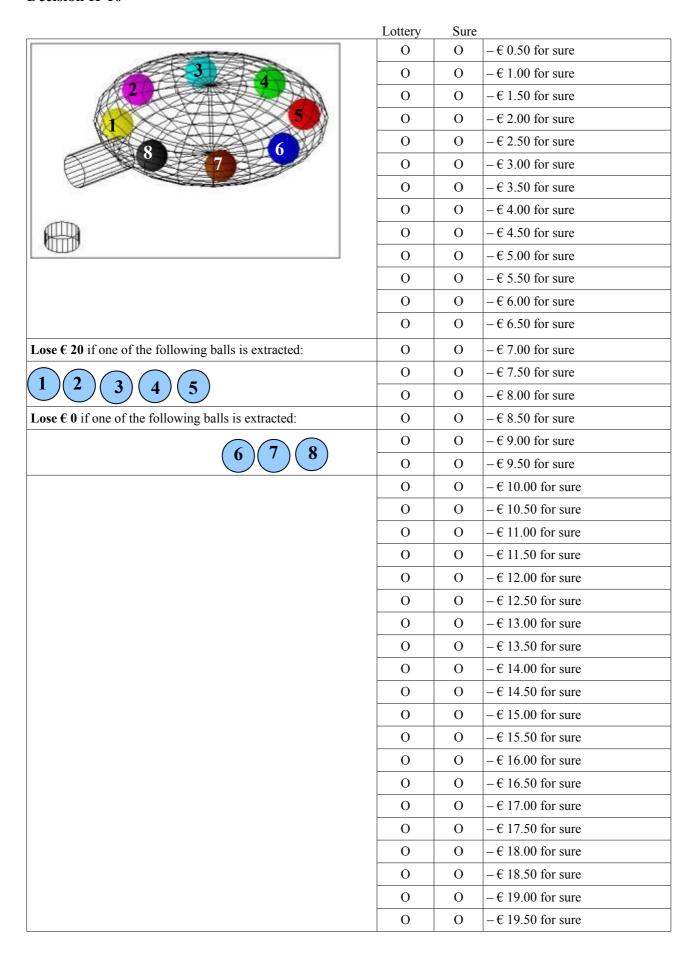


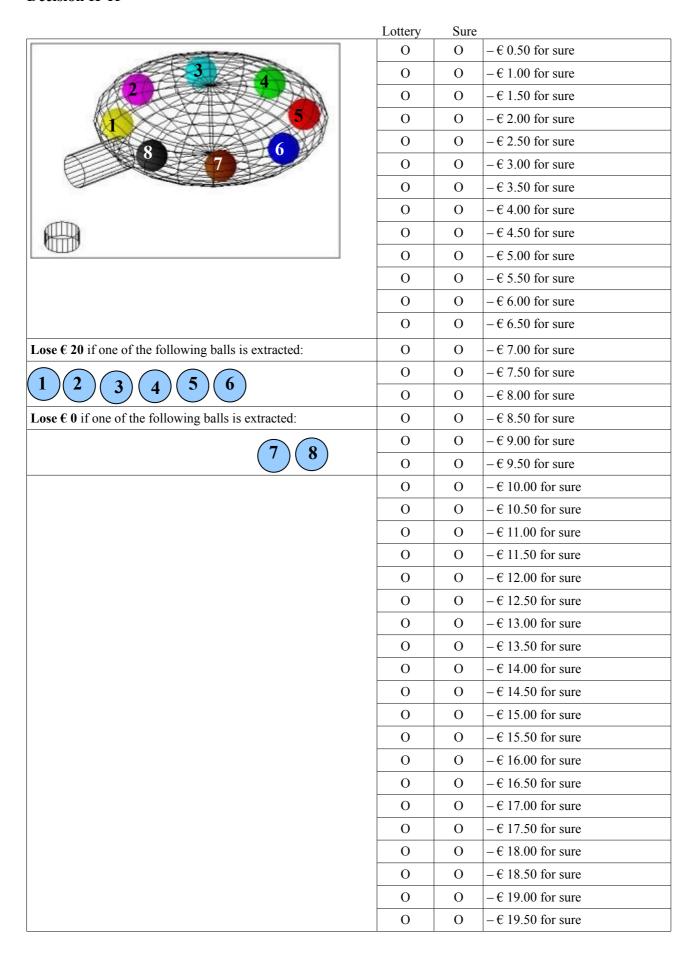


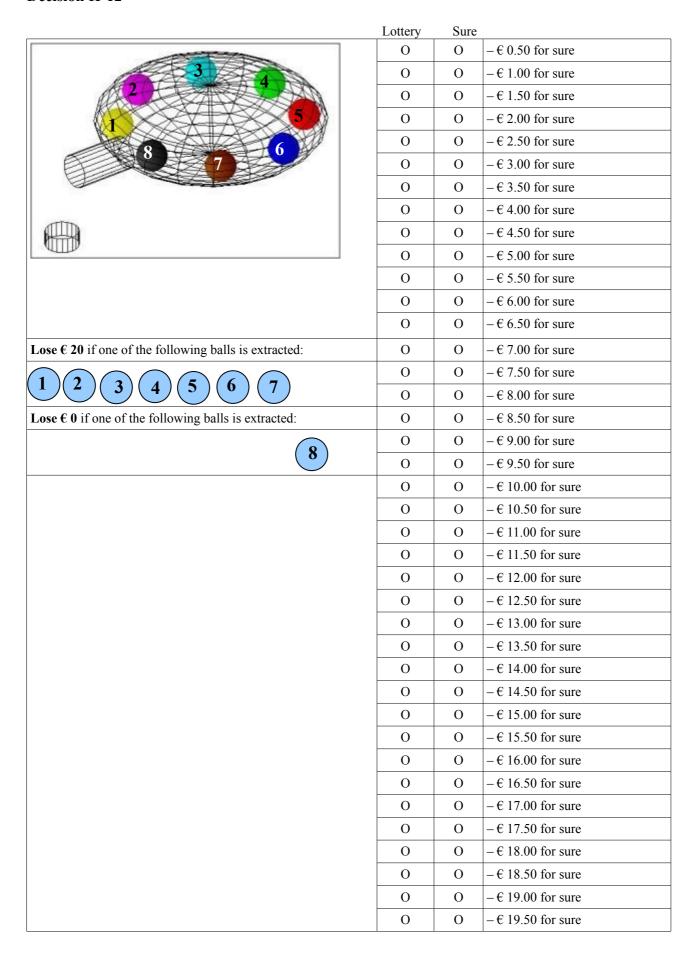


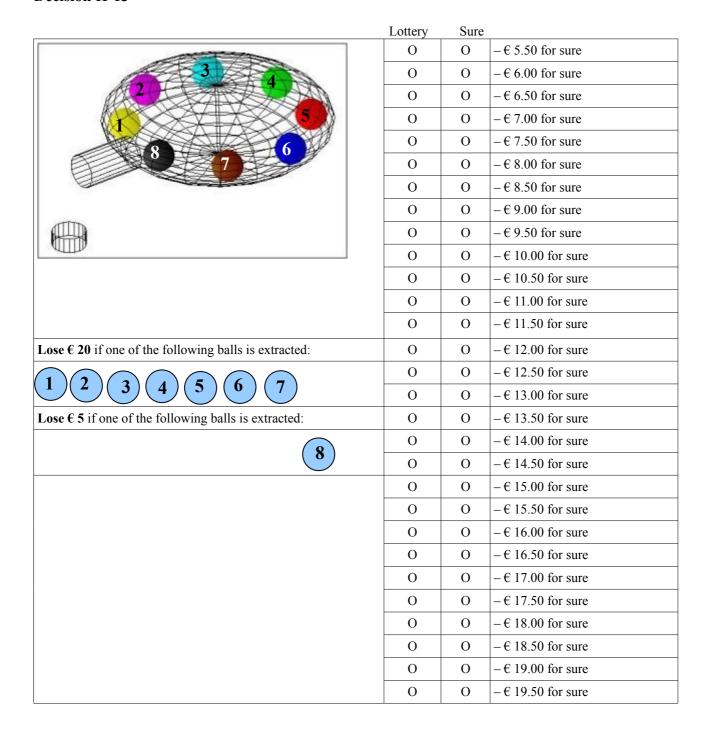


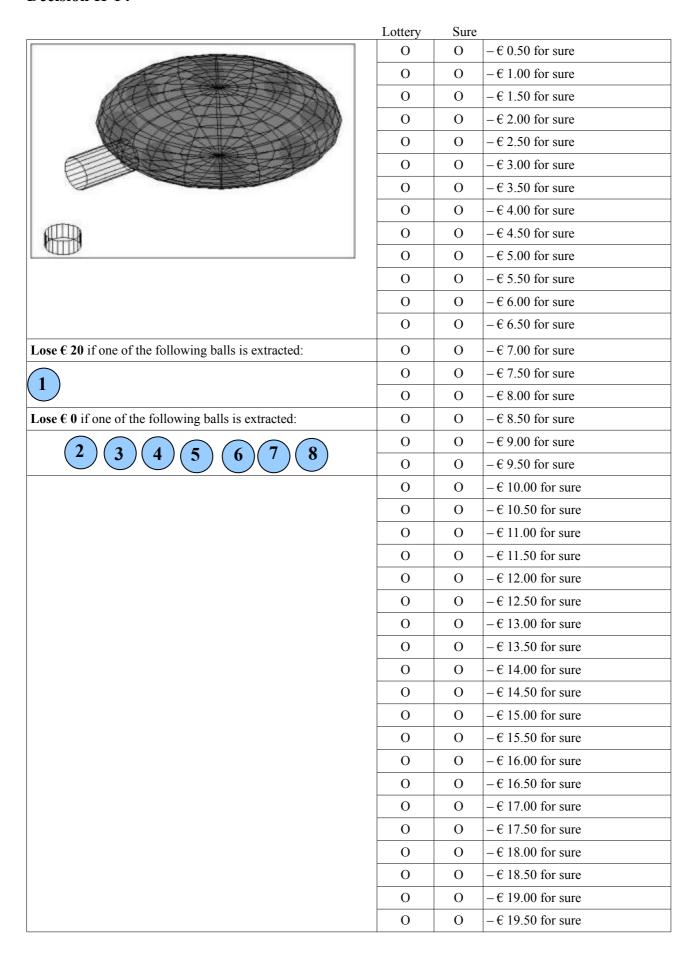


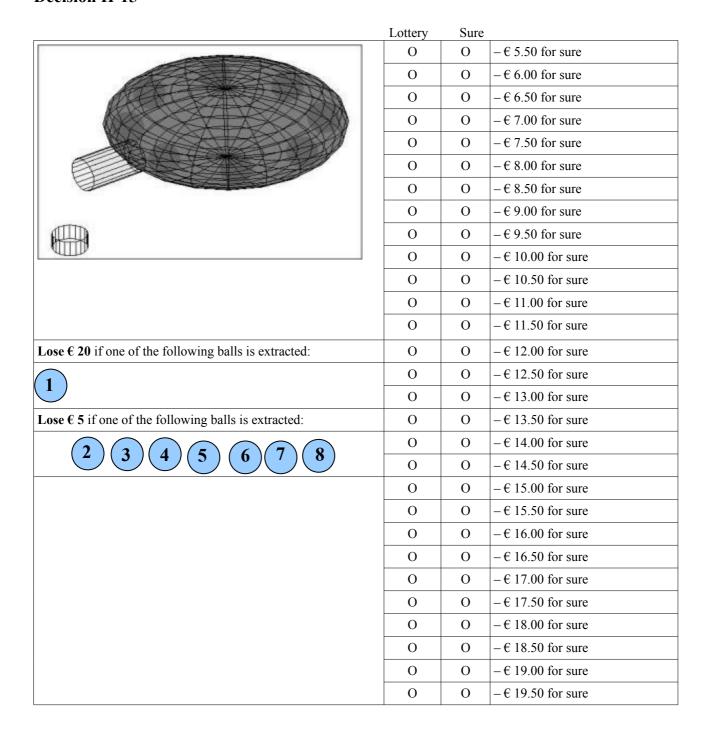


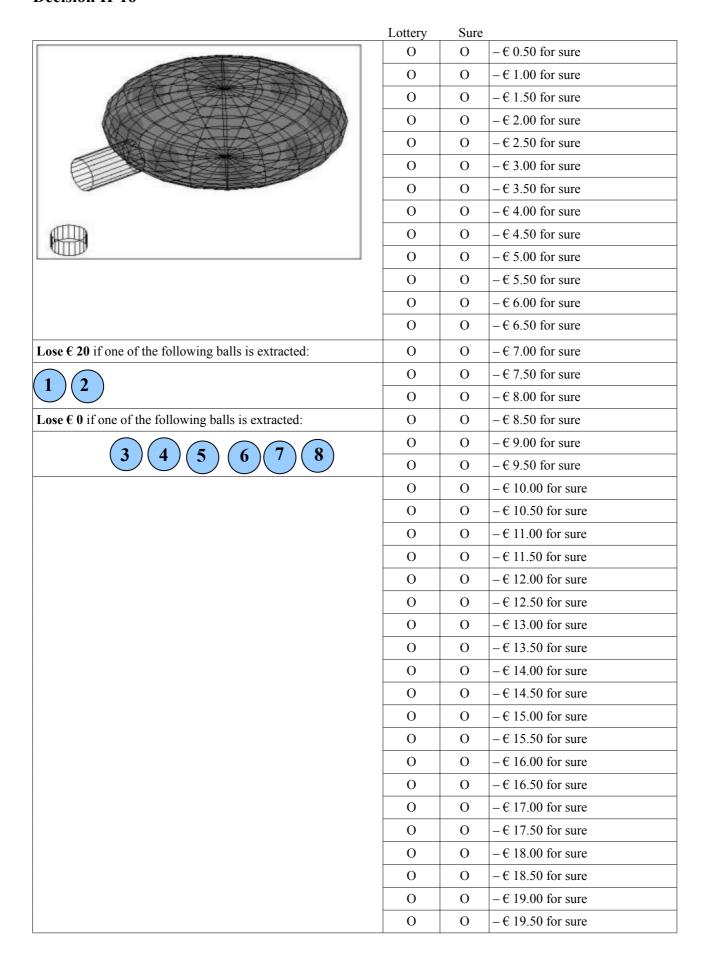


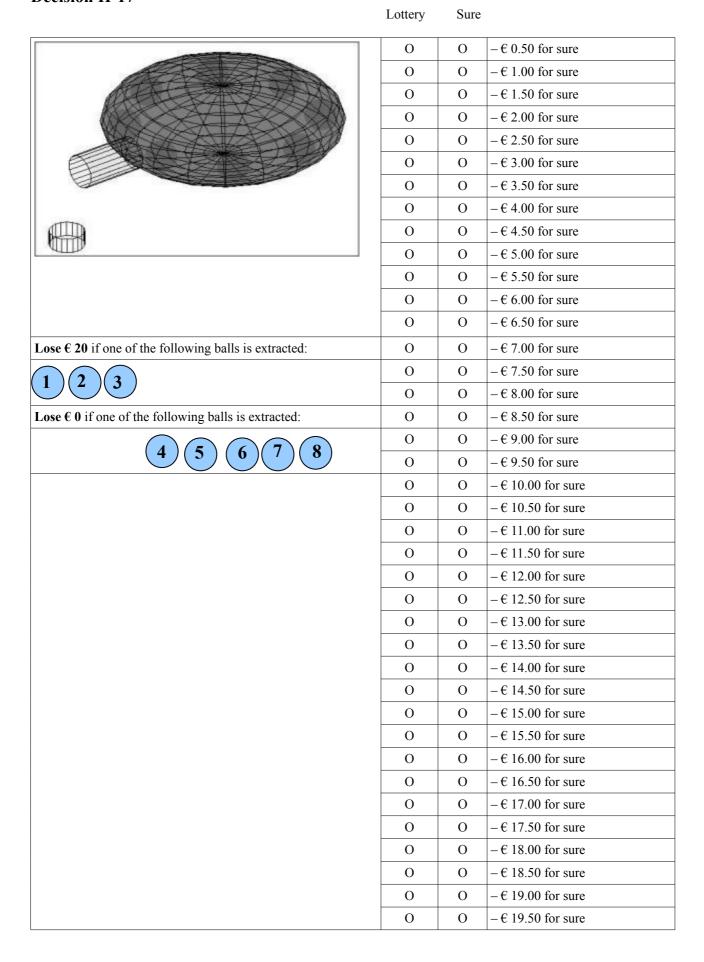


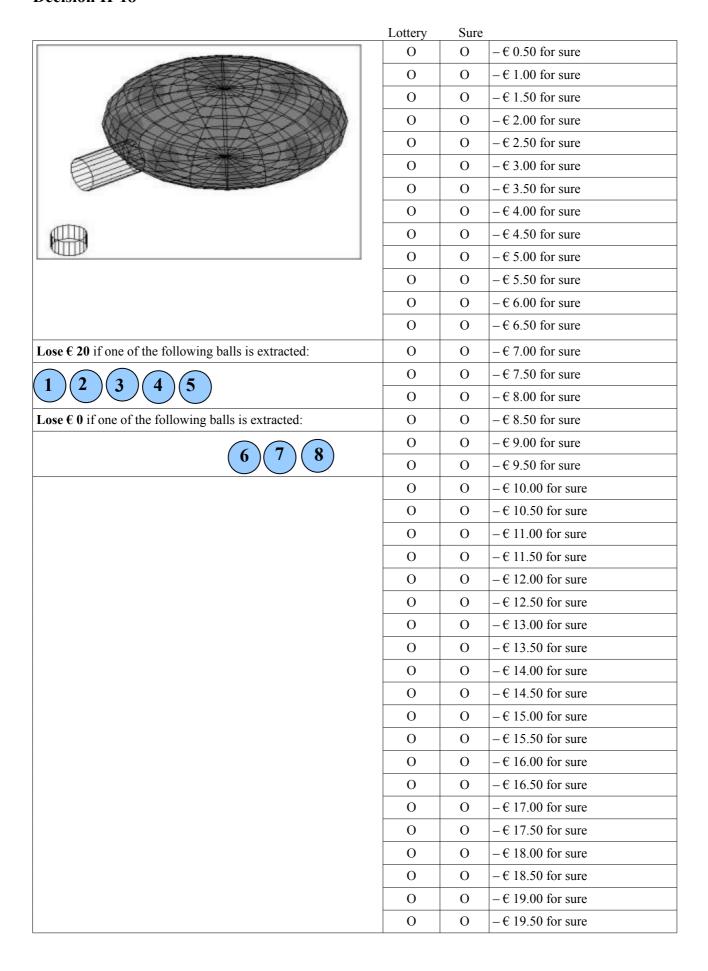


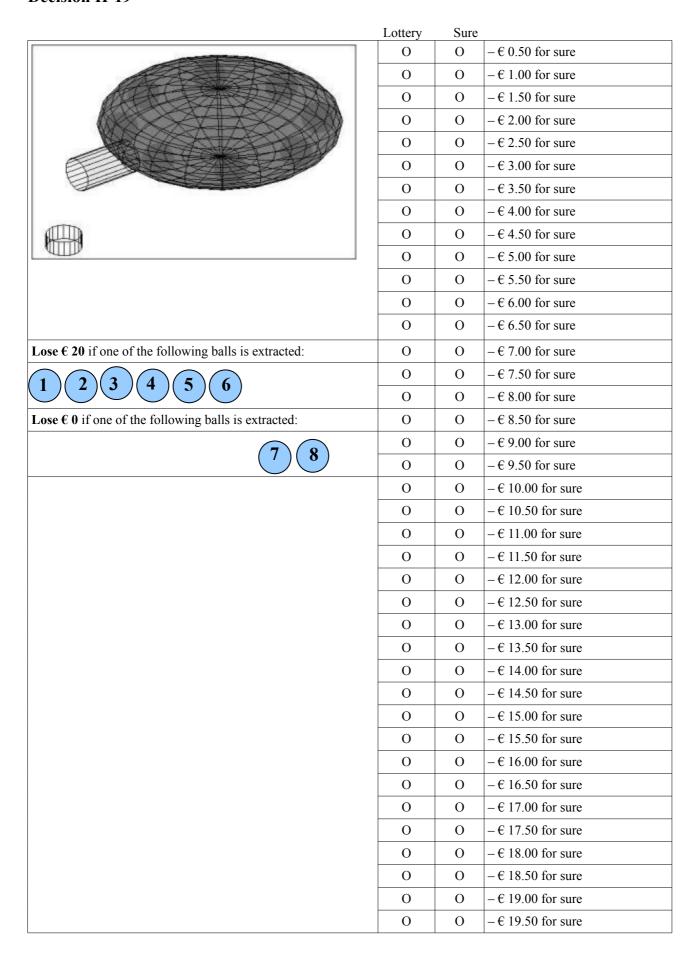


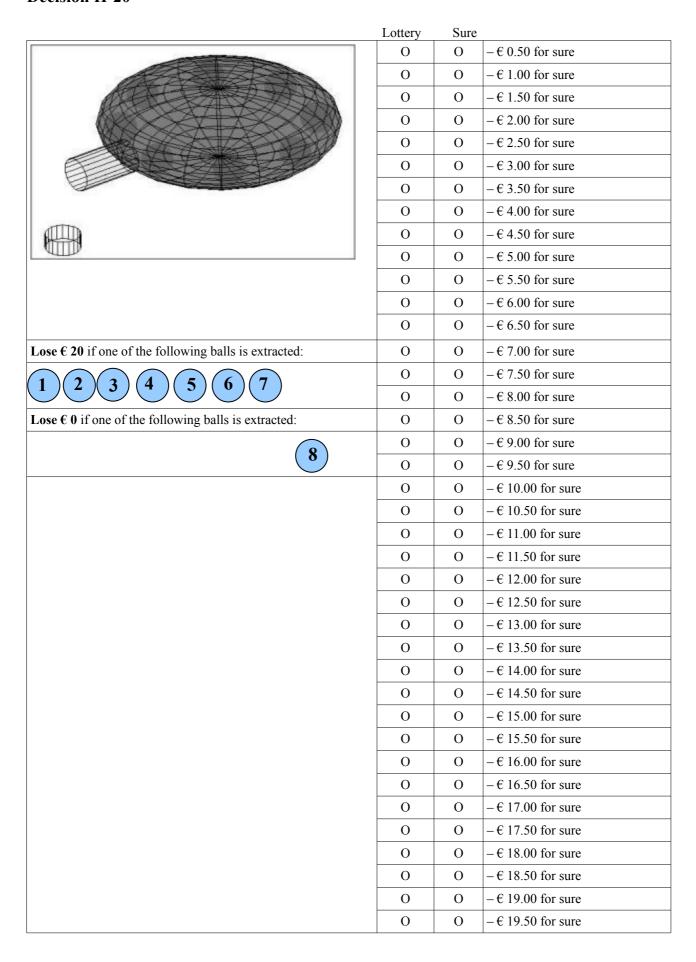


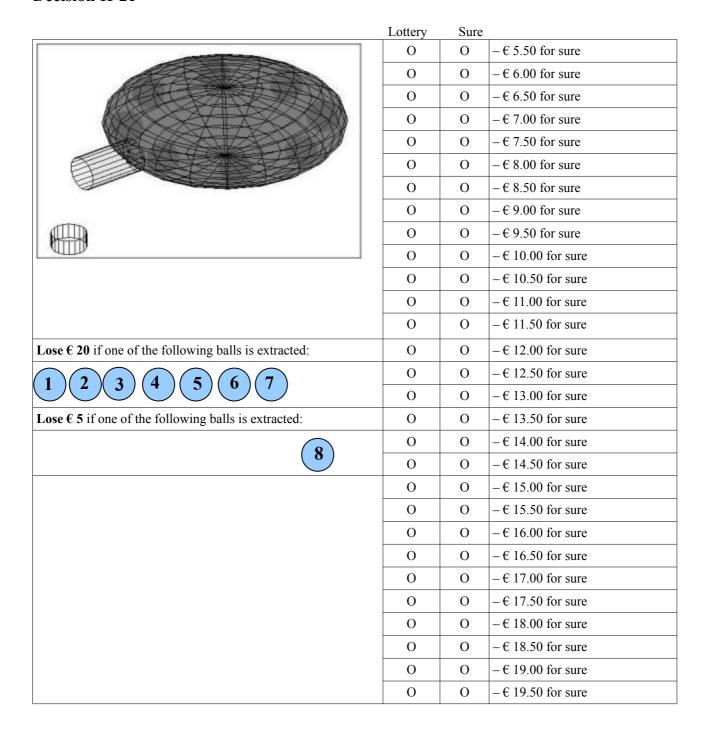


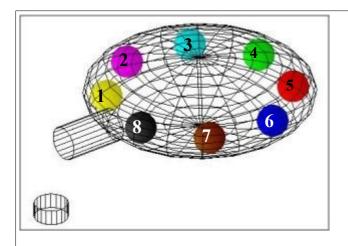












Win € 20 if one of the following balls is extracted:



If one of the following balls is extracted, then:

5 6 7 8	
Lose	

3 0 7 0	Lottery	Sure	
Lose € 20	О	О	€ 0 for sure
Lose € 19	О	О	€ 0 for sure
Lose € 18	О	О	€ 0 for sure
Lose € 17	О	О	€ 0 for sure
Lose € 16	О	О	€ 0 for sure
Lose € 15	О	О	€ 0 for sure
Lose € 14	О	О	€ 0 for sure
Lose € 13	О	О	€ 0 for sure
Lose € 12	О	О	€ 0 for sure
Lose € 11	О	О	€ 0 for sure
<b>Lose € 10</b>	О	О	€ 0 for sure
Lose € 9	О	О	€ 0 for sure
Lose € 8	О	О	€ 0 for sure
Lose € 7	О	О	€ 0 for sure
Lose € 6	О	О	€ 0 for sure
Lose € 5	О	О	€ 0 for sure
Lose € 4	О	О	€ 0 for sure
Lose € 3	О	О	€ 0 for sure

# Questionnaire

Please answer the followers personally.	llowing qu	estions about yoursel	f. All answers are	confidential and c	annot be trace	d back to you
Age:	Stud	y semester:				
O female	O male					
What is your studies O economics or busi O mathematics or en O natural sciences O medicine O social sciences O humanities O arts O other	ness					
Please indicate your	grade poin	t average:	_			
Are you originally fr	om \$\$nam	e of country where ex	κp. is to take place	\$\$? O yes	O no	
If not, which country	are you fi	om originally?				
Are both your parent	s from \$\$r	name of country wher	e exp. is to take pl	ace\$\$? O yes	O no	
Have you ever lived O never O less than six month O between six month O between one and t O between two and f O longer than five ye	hs ns and a ye wo years ive years	a significant period o	of time?			
		ion of your monthly l ion of your monthly s				
Please indicate how Please indicate how	many olde many your	r siblings you have:_ nger siblings you have	:	-		
Are you married?	O yes	O no				
How tall are you?		_cm				
	ate on the	tatement: "Man-induction of the extent fully agree":				
1	2	3 O	4	5	6	7
1 O	О	O	O	O	O	O
consequences from c	hanges in	tatement: "It is imper global climate, even i this statement, with 1	f such action may	be costly". Please	e indicate on th	ne scale below the
1	2	3	4	5	6	7
O	O	O	O	O	O	O

The following section seeks to evaluate your cultural orientation. Please indicate your agreement with each of the following statements:

	Stongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Individuals should sacrifice self-interest for the group that they belong to	О	О	0	О	О
2. Individuals should stick with the group even through difficulties	О	О	О	О	О
3. Group welfare is more important than individual rewards	О	О	0	О	О
4. Group success is more important than individual success	О	O	О	O	О
5. Individuals should pursue their goals after considering the welfare of the group	О	O	О	О	О
6. Group loyalty should be encouraged even if individual goals suffer	О	О	О	О	О
7. People in higher positions should make most decisions without consulting people in lower positions	О	О	O	О	О
8. People in higher positions should not delegate important tasks to people in lower positions	О	О	О	О	О
9. People in higher positions should not ask the opinions of people in lower positions too frequently	О	О	О	О	О
10. People ion higher positions should avoid social interaction with people in lower positions	O	O	О	О	O
11. People in lower positions should not disagree with decisions made by people in higher positions	O	О	О	О	O
12. It is important to have instructions spelled out in detail so that I always know what I am expected to do	О	О	О	О	О
13. It is important to closely follow instructions and procedures	О	О	0	О	О
14. Rules/regulations are important because they inform me of what is expected of me	О	О	О	О	О
15. Standardized work procedures are helpful	О	О	0	О	О
16. Instructions for operations are important	О	О	0	О	О
17. It is more important for men to have a professional career than it is for women	О	О	О	О	О
18. Men usually solve problems with logical analysis; women usually solve problems with intuition	O	O	О	О	O
19. Solving difficult problems usually requires an active forcible approach, which is typical for men	O	O	О	О	О
20. There are some jobs that a man can always do better than a woman	О	О	0	О	О
21. Even though certain food products are available in a number of different flavors, I tend to buy the same flavor	O	O	О	О	О
22. I would rather stick with a brand I usually buy than try something I am not very sure of	О	О	0	О	О
23. I think of myself as a brand-loyal consumer	О	О	О	О	О
24. When I go to a restaurant, I feel it is safer to order dishes I am familiar with	О	О	О	О	О
25. If I like a brand, I rarely switch from it just to try something different	О	О	О	О	О
26. I am very cautious in trying new or different products	О	О	О	О	О
27. I rarely buy brands about which I am uncertain how they will perform	О	О	О	О	О
28. I usually eat the same kinds of foods on a regular basis	0	0	0	О	0

How do you see yourself? Are you generally a person who is fully willing to take risks or do you try to avoid taking risks? Please tick a box on the scale below, where 0 means "risk averse" and 10 means "fully prepared to take risks":

Risk averse										prepared to take risks
0	1	2	3	4	5	6	7	8	9	10
O	O	O	O	O	O	O	O	O	O	O

People can behave differently in different situations.

How would you rate your willingness to take risks in the following areas?

How is it ...

risk averse									to ta	ke risks	
	0	1	2	3	4	5	6	7	8	9	10
- while driving?	О	О	О	О	О	О	О	О	О	О	О
- in financial matters?	О	О	О	О	О	О	О	О	О	О	О
- during leisure and sport?	О	О	О	О	О	О	О	О	О	О	О
- in your occupation?	О	О	О	О	О	О	О	О	О	О	О
- with your health?	О	О	О	О	О	О	О	О	О	О	О
– your faith in other people?	О	О	О	О	О	О	О	О	О	О	О

fully prepared

Please consider what you would do in the following situation:

Imagine that you had won 100,000 Euros in the lottery. Almost immediately after you collect the winnings, you receive the following financial offer from a reputable bank, the conditions of which are as follows:

There is the chance to double the money within two years. It is equally possible that you could lose half of the amount invested. You have the opportunity to invest the full amount, part of the amount or reject the offer. What share of your lottery winnings would you be prepared to invest in this financially risky, yet lucrative investment?

O 100.000 Euros
O 80.000 Euros
O 60.000 Euros
O 40.000 Euros
O 20.000 Euros
O Nothing, I would decline the offer

How many inhabitants has the town where you lived at the age of 16?

\_\_\_\_\_\_inhabitants

What are your religious views?
O atheist/agnostic
O catholic
O protestant
O muslim
O jewish
O hinduist
O buddist
O other:

Thank you for taking part in this experiment! Please remain seated until an experimenter calls you up.