## Question 1.

John purchased a non-refundable ticket to a football match for €100. An hour before the event starts, a friend offers her €60 to babysit their child for the night. Since he cannot resell the ticket on such short notice, should John choose to attend the football match or accept the babysitting job?

## Question 2.

Company A is an ice cream brand that sells both ice creams and waffles, produced by two internal departments. Assume the following data was collected regarding each one of the departments:

	Ice Cream	Waffle	Total
Revenue	2,000,000\$	1,000,000\$	3,000,000\$
Variable Cost	1,000,000\$	700,000\$	1,700,000\$
Contribution Margin	1,000,000\$	300,000\$	1,300,000\$
Fixed Cost	500,000\$	500,000\$	1,000,000\$
Operating Profit	500,000\$	-200,000\$	300,000\$

Recently, a consultant suggested that 200,000\$ of the fixed costs of department responsible for producing waffles will still exist even if it closed. Finally, by stopping the production and sale of waffles, the company would face a 20% decrease in the sales of ice cream.

By considering all the provided information, would it be beneficial for the company to stop selling waffles?

## Question 3.

A company exhibits, regarding model R2-D2 in the present year, a break-even point of sales of 47,000 units. Knowing that if it sells this year 48,000 units of this model this company will have a profit of \$2,000, calculate the value of its fixed costs.

## **Question 4**

The Very Big Corporation of America, a hat manufacturer, recently found out that people are not wearing enough hats. Currently, the company sells one single product, called A Hat, but with this new information, it decided to roll out a new product. To produce this new product, the company intends to use a factory it already owns, bought 5 years ago for 25,000\$ and with a current market-value of 35,000\$. If not producing this new product, the company will have no use for this factory and will put it out for sale. Additionally, this new product will require new equipment with a total cost of 5,000\$. Assume that the following data were collected regarding the production of this new product (cost per unit, which you may assume constant):

Raw and manufacturing costs 1.50\$ Labour cost 2.50\$ Variable Selling costs 0.50\$ Finally, the company's managers expect this new product to generate a cannibalisation effect 1 over the sales of the A Hat line. According to management estimates, for every 10 units sold of this new product, the quantity sold of A Hat will decrease by 1 unit. Assume that the company is currently selling A Hat for 15\$ per unit and that, in order to produce this older product, the company must bear fixed costs of 100,000\$ and variable costs of 10\$ per unit.

- a) Determine the opportunity cost for the factory.
- b) Compute the total cost function.
- c) c) Assume that the selling price for this new product will be e10 per unit and that, according to initial estimates, the company will sell 20,000 units in total. Should the company produce this new product?
- d) d) How many units of the new product will the company have to sell in order to cover its fixed costs, assuming once more a selling price of e10?