

EXTRAORDINARY CALL

THEORETICAL PART: 4 points

APPLIED PART: 6 points

To pass the exam, you must obtain at least the 50% of the score corresponding to each one of the parts.

THEORETICAL PART

1. **(1,5 points)** In which contexts do integer numbers appear? Put a detailed example for each one of them.
2. **(1 point)** Define: common divisor of two numbers, mixed recurring decimal number, composite number, empty set and irrational number. Put an example of each one of them.
3. **(1,5 points)** Explain in detail a method to know if a fraction is equivalent to a decimal fraction. Use this method to find out if the fraction $18/75$ is equivalent to a decimal fraction or not.

APPLIED PART

1. **(1,5 points)** In the next public elections, some candidates manage the resources for their election campaigns with money coming from different sources. A Royal Gala candidate has 18.000.000€ for his campaign and he is thinking about distributing that quantity as follows:
 - One half of the money will be used in advertising.
 - $1/5$ of the remaining quantity will be used in snacks.
 - $1/20$ of the remaining part will be used to pay rent and services corresponding to the campaign location.
 - $3/10$ of the remaining quantity will be used to pay professional fees.Finally, the remaining quantity of money will be used to pay the transport of the voters the day of the elections. What is the quantity of money will be destined to transport? Find out the irreducible fraction corresponding to this quantity with respect the initial quantity.
2. **(1 point)** When it lacks the 30% of a container to be completely filled, it contains 30 liters more than when it is filled only the 30% of its total capacity. Which is the capacity of the container?
3. **(1 point)** In a camp there are three groups of 40, 56 and 72 children, respectively. The waiter wants to organize the dining room to have in each table the same number of children, mixing the groups so that each table has the same number of children from each group, and using as few tables as possible. How many children from each group will be seated at each table?
4. **(1,5 points)** In a survey on preferences of TV channels A, B and C, the following information was obtained: 55 respondents watch channel A, 15 only watch channels A and B, 33 watch channels A and C, 3 only watch channel C, 25 watch all three channels, 46 watch channel B, 6 do not watch TV, 2 only watch channels C and B. Find out: a) The number of people surveyed. b) The quantity of people who watch only channel B. c) How many people watch channel C.
3. **(1 point)** A diver is initially on the base platform at 6 meters above the sea level. Then he goes down until 20 meters below the sea level to leave material, and goes down again 12 meters more to repair a machine. After that he goes up 8 meters to repair a pipe, and finally he climbs back to the platform. a) How many meters has he climbed on his last trip to the platform? b) How many meters has he covered in total?

**ARGUE YOUR ANSWER IN ALL THE QUESTIONS. THE USE OF THE CALCULATOR IS NOT ALLOWED.
DELIVER ALSO THE CALCULATION SHEETS**