



Master's Degree Courses

**GO MAG DID 1.20
EN**

INSTRUCTIONS

It is in your interest to carefully read the instructions contained in this booklet. They are indispensable to carrying out the test in a correct manner. **WARNING:** the time limit assigned to you includes the reading of these instructions as well as the completion of the test.

The test consists of various types of questions. For each question, you will be given four possible answers. For each question, you must choose *only one* of the answers provided. Choose the most correct and complete answer.

You will find the questions in this booklet. You must mark your answers on the *answer sheet* that has been provided along with the booklet.

Mark your answers by filling in the corresponding box (■) on the *answer sheet*. **ATTENTION:** *do not write your answers in this booklet*. Use the appropriate *answer sheet* that has been provided.

On the *answer sheet*, only fill in the boxes (■) that correspond with the answers that you want to give. Do not make any other marks on the sheet.

You are not allowed to change your answer once it has been filled in on the sheet.

Always check that the number of the question in the booklet is the same as the one placed next to the box in which you mark your answer on the *answer sheet*.

Make sure - before you start - that there are no printing errors in the booklet and or on the *answer sheet*. If you find any errors, immediately bring them to the attention of one of the assistants who will provide you with a different booklet.

Here are some examples of the kind of questions that you will find in the booklet and with explanations for how you should respond. Carefully read the examples and explanations relating thereto. Do not write the answers to the examples on the *answer sheet*. **Questions relating to the actual test begin on page 5.**

EXAMPLES

To answer question **E1**, read the following passage:

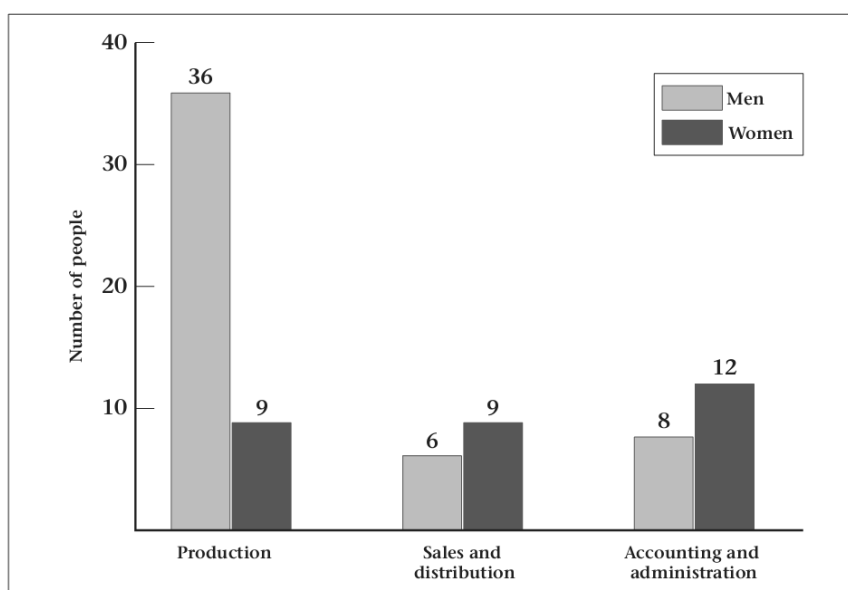
On the economic front, there are also clear signs of rapid changes; one of which is connected to the restructuring of companies, which is becoming more frequent on average, even to compete internationally.

E1. After reading the excerpt, it is now known that:

1. small businesses in our country do not have restructuring problems
2. international competition has an impact on the need for companies to restructure more frequently than in the past
3. our products are competitive, especially abroad
4. our country remains economically stagnant for small and medium-sized companies

Regarding example **E1**, the correct answer is indicated by the number **2**. To answer, therefore, you should **black out box 2** on the *answer sheet*, in correspondence to example **E1**.

Example **E2** presents a histogram showing the number of men and women who work in the three departments of the Red Ltd. company.



E2. What is the percentage of women who work at Red Ltd.?

1. 50%
2. 30%
3. 26.5%
4. 37.5%

To find the percentage of women who work at Red Ltd. you need to calculate how many people in total work at the company ($36 + 9 + 6 + 8 + 9 + 12 = 80$). Then, calculate how many of these people are women ($9 + 9 + 12 = 30$). With this data, it is now possible to calculate the percentage $[(30/80) \times 100]$, which is equal to 37.5%. Therefore, the correct answer is number **4**. To answer, therefore, you should **black out box 4** on the *answer sheet*, in correspondence to example **E2**.

To answer question **E3**, read the following passage:

A study on twenty overweight men demonstrated that all of them lost weight to a significant degree when they added Wateloss, an artificial dietary supplement, to their daily diet. For four months, every morning each man assumed the contents of a sachet of Wateloss after having performed physical activity, and for the remainder of the day followed his normal diet. Evidently, anyone who takes a sachet of Wateloss every day for at least four months will lose weight and feel better.

E3. Which of the following statements is the hypothesis on which the argument presented in the passage is based?

1. Daily physical exercise is not responsible for the results emerging from the study
2. The men in the study will gain weight again as soon as they interrupt the Wateloss programme
3. No other dietary supplement has the same effect on overweight men
4. Women will not achieve the same results as men if they follow the Wateloss programme for four months

Reading and analysing the passage in a critical manner, it emerges that the correct answer is the first one, since the final sentence of the passage clearly indicates that the only cause of the weight loss is the daily assumption of the dietary supplement. To answer, therefore, you should **black out box 1** on the *answer sheet*, in correspondence to example **E3**.

In the last example, **E4**, the question is made up of two parts. That is, first **a problem**, followed by **two statements** indicated by the letters **A** and **B**. You have to decide which statement or statements are necessary, if any, in order to solve the problem. To answer you must black out on the *answer sheet* the box:

1. if just one statement, either A or B, is sufficient on its own to solve the problem, but the other statement alone is not;
2. if statements A and B need to be combined to solve the problem, even though neither is sufficient on its own;
3. if both statements A and B are sufficient on their own to solve the problem;
4. if the problem cannot be solved by combining statements A and B as additional data is required.

Observe the following example:

E4. If Mary's restaurant has to have daily takings of at least €5,000 to cover the running costs, can Mary manage to derive a profit from her business?

Statement A. On average, a meal in Mary's restaurant costs €15.00 per person.

Statement B. Every day Mary serves approximately 400 meals in her restaurant.

The correct answer is the second one because neither of the statements taken on its own is sufficient to solve the problem; statement **A** does not tell us how many meals are served, while **B** does not tell us how much a meal costs. Only by combining both statements can we calculate the daily takings of the restaurant ($€15.00 \times 400 \text{ meals} = €6,000$ average daily takings), and therefore establish whether or not there is a profit ($€6,000$ of daily takings – $€5,000$ of running costs = $€1,000$ profit). To answer, therefore, you should **black out box 2** on the *answer sheet*, in correspondence to example **E4**.

Inside the test booklet, you will find questions that will test your knowledge of English. You will be presented with a passage in English, in which some words are missing and marked with an ellipsis in the text (.....). You will have to choose the option, among the four presented, that you think best fills in the gap to complete the sentence. You will also be presented with some questions concerning specific fields, and logic and reasoning. Finally, you will be asked to solve some mathematical problems.

In the booklet, you will find questions similar to the above examples. Read each question carefully and give your answer on the *answer sheet*.

REMEMBER:

- give your answers on the *answer sheet* by shading in the box (■) corresponding to your chosen answer
- you may not correct your answers once they have been given
- the tests will be marked as follows: 1 point for every correct answer, –0.25 points for every incorrect answers, 0 points for every missed or multiple (double) answer
- make sure you answer all kind of questions

BEGIN NOW AND... GOOD LUCK!

TEST START

Consider the following passage when answering the questions no. 1 to no. 4

In front of the cavern the black water of the lake sprawled, surrounded by a forest, and the cave, which harsh and jagged rocks made it difficult to access, was protected by it. It was further protected by a noxious stench that kept men away and did not allow animals to live there; the birds had abandoned the area and the Greeks has called the place “Avernus”, which in their language means “without birds”. During the day Aeneas and his men had led the animals to the mouth of the cave for the sacrifices. Later, when nightfall made the places even gloomier, the men erected the altars. When the sacrifices were over, the Sibyl turned to Aeneas. “Let’s go” she said. “Come in with me and keep your sword handy... But more importantly, you’ll need courage”. She bravely entered the cave, and Aeneas followed. As they proceeded, the light became gloomier until the cave was plunged into complete blackness. Slowly the darkness around them filled with ghosts and frightening shadows. “Don’t be scared”, the Sibyl told him, “They are just ghosts which represent all the evils of the Earth but they can’t do anything to us”.

Reply to the questions blacking out on the *answer sheet* the box:

1. TRUE: means that the statement is included in the passage, or that it is implicit, or that it can be logically deduced from one or more statements present in the passage;
2. FALSE: means that the statement contradicts a statement that is included or implicit or is a logical consequence of what is stated in the passage;
3. CANNOT BE DEDUCED FROM THE TEXT: means there is not sufficient information in the passage to draw certain conclusions as regards the truth or falsity of the statement.

1. The cave in the Avernus area was unwelcoming for birds but also for other animals.

1. TRUE
 2. FALSE
 3. CANNOT BE DEDUCED FROM THE TEXT
-

2. Sacrifices could only be carried out at night.

1. TRUE
 2. FALSE
 3. CANNOT BE DEDUCED FROM THE TEXT
-

3. The waters of the lake were black to discourage men from entering the cave.

1. TRUE
 2. FALSE
 3. CANNOT BE DEDUCED FROM THE TEXT
-

4. According to what the Sibyl tells Aeneas, he won’t need his sword in the cave.

1. TRUE
 2. FALSE
 3. CANNOT BE DEDUCED FROM THE TEXT
-

5. Which of the following contracts is not required, on pain of nullity, to be in written form?

1. A contract transferring ownership of chattels
 2. A contract establishing usufruct on real estate
 3. A contract establishing or modifying an easement
 4. A contract transferring ownership of real estate
-

6. Vittorio has a collection of old vinyl records. He has a number between 60 and 80 of them. If he keeps them in boxes which contain 8 vinyl records, he fills each one completely with none left over; if he keeps them in boxes that hold 11 vinyl records, he could fill some completely and 6 records would be left over. How many old vinyl records does Vittorio have?

1. 72
2. 64
3. 80
4. 77

7. Given the function of a real variable $f(x) = e^{2x} + 1$, what is the equation of the straight line tangent to its graph at abscissa point $x = 0$?

1. $y = 3x + 1$
2. $y = 2ex + 2$
3. $y = 2x + 1$
4. $y = 2x + 2$

8. Read the passage below carefully

The Frankfurt headquarters of Deutsche Bank have been raided by prosecutors in a money laundering investigation. Germany's public prosecutor alleged that two staff members have helped clients launder money from criminal activities. Police cars were seen outside the tower blocks that house the headquarters of Germany's biggest bank. Other Deutsche offices in the city were searched in an operation involving about 170 police officers and officials. Prosecutors are looking into whether Deutsche Bank staff helped clients set up offshore accounts to "transfer money from criminal activities". In 2016 alone, more than 900 customers were served by a Deutsche Bank subsidiary registered in the British Virgin Islands, generating a volume of €311m, the prosecutors allege. The investigation was sparked by revelations in the 2016 "Panama Papers" - an enormous amount of information leaked from a Panamanian law firm called Mossack Fonseca.

Where did prosecutors get information of the money laundering allegations from?

1. Deutsche bank headquarters in Frankfurt
2. A law firm in Panama which leaked confidential documents
3. Germany's public prosecutor
4. A Deutsche Bank subsidiary in the British Virgin Islands

9. In an economy characterised by the presence of two goods and one consumer, what happens if the prices of both goods and the consumer's income halve?

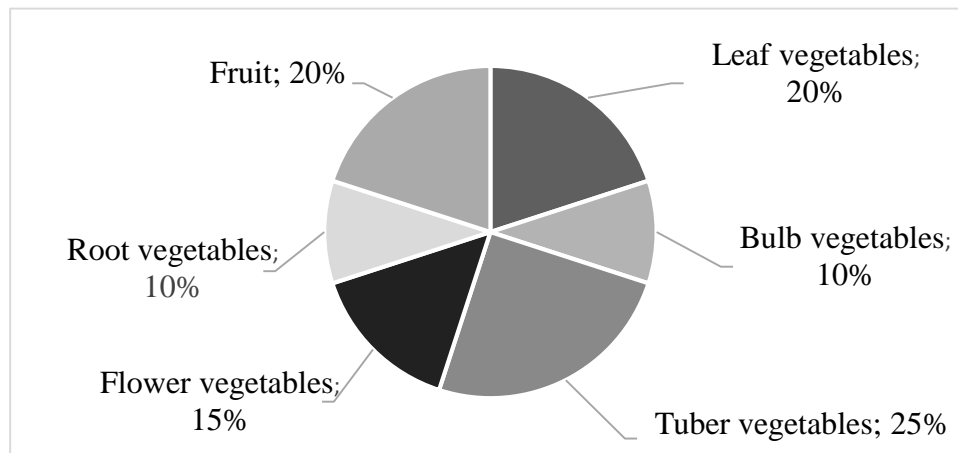
1. The set of goods that can be bought by the consumer decreases
2. The set of goods that can be bought by the consumer does not change
3. The set of goods that can be bought by the consumer depends on the ratio between the prices
4. The set of goods that can be bought by the consumer depends on the ratio between the consumer's income and the prices of the goods

10. Denying the statement "we can't say for sure that the restaurant won't be open" is the same as saying:

1. we can say for sure that the restaurant won't be open
 2. we can't say for sure that the restaurant is open
 3. we can say for sure that the restaurant will be open
 4. none of these answers is correct
-

Consider also the following graph when answering the questions no. 11 and no. 12

Distribution of turnover for the “MondoVerde” fruit and vegetable market (year 2019)



11. Knowing that the turnover which comes from vegetables is €120,000 in 2019, how much is the turnover which comes from flower vegetables?

1. €15,000
2. €22,500
3. €28,000
4. €20,000

12. We know that the turnover of the “MondoVerde” fruit and vegetable market in 2019 was €150,000 and that 50% of the fruit turnover comes from private company Rossi. Private company Rossi’s turnover is divided between oranges and mandarins in the ratio 2:1 respectively, as far as “MondoVerde” is concerned. How much of private company Rossi’s turnover, for “MondoVerde”, comes from oranges?

1. €15,000
2. €20,000
3. €5,000
4. €10,000

13. According to the Norwegian political scientist Stein Rokkan, social “cleavages” are:

1. the cause of the emergence of parties as we know them today
2. the consequence of introducing universal suffrage
3. the differences between majoritarian democracies and consensual democracies
4. the consequence of every economic and industrial revolution

14. A bicycle is _____ than a car.

1. less expensive
 2. cheap
 3. cheap est
 4. more expansive
-

Consider the following passage when answering the questions no. 15 to no. 19

UK companies fail to profit from computerization and many have only themselves to blame. In fact, these companies persist in believing that it is enough to purchase software and hardware to bring down costs in some way, to solve management problems and create a rich portfolio of new customers. Undoubtedly, technology plays an important role in the development of a business, but it is just one piece of this complicated puzzle. A recent survey by the University of Sheffield points out that the majority of the computing investment of a company is wasted if they do not take into account human and organizational aspects. The survey actually showed that slightly less than 20% of the investment meets the expectations and 80% of systems are delivered late and with a cost exceeding the budget. In addition, 40% of interventions aimed at the development fall through or are abandoned. This figure proves to be very serious when you consider that each year, in the UK alone, billions of pounds are spent on computerization. Professor Chris Clegg of the Institute of Work Psychology, University of Sheffield, who led the investigation said that only rarely could the responsibility of failed projects be attributed to technology: the core of the problem lies in the lack of attention to the crucial roles played by individuals and organizational variables when defining the outcome of a computing development.

15. The investigation being discussed in the passage was carried out:

1. at an institute of information technology in Sheffield
2. by a group of British companies
3. by the University of Sheffield
4. by a London university

16. As far as it is clear from the passage, the purchase of new software is to be considered:

1. the only essential element for business development
2. the only way to solve management problems
3. only useful when combined with other factors
4. only useful when combined with cost cutting

17. According to the passage, most of the new programs:

1. arrive late and cost too much
2. arrive late but are cheap
3. meet expectations
4. despite arriving on time, cost too much

18. According to Clegg:

1. often, technology does not meet expectations
2. often, technology causes the failure of projects
3. often, operative systems are ruinous
4. rarely technology is responsible for the failure of projects

19. The research concerns:

1. European companies
 2. companies in Anglo-Saxon countries
 3. companies in the United States
 4. none of these answers is correct
-

20. Are the shares of a joint-stock company divisible?

1. No, never
 2. Yes, always
 3. Only if the charter provides for this
 4. Yes, at the discretion of the shareholder holder of share
-

21. On average, two mechanics can take an engine apart and put it back together again in 2 hours. Knowing that all mechanics disassemble and reassemble engines at the same speed, on average how many engines can 6 mechanics disassemble and reassemble in 6 hours?

1. 3
 2. 6
 3. 9
 4. 12
-

22. Read the passage below carefully

The fifth generation of telecommunications, 5G, continues to spread but it also brings some problems with it. In fact, it seems that the frequencies on which 5G operates are close to those captured by some weather satellites and this could create confusion in the data. **5G technology operates on the bandwidth between 24.25 and 27.50 gigahertz, while weather satellites orbit around 23.60-24.00 gigahertz.** Weather forecasts could become much less accurate as **we risk losing around 77% of the data supplied by weather sensors.**

In the above passage what role do the two parts of the text in bold play?

1. The first provides numerical data confirming what stated in the passage; the second is a consequence of the reported data
 2. The first introduces the topic being examined; the second is the main conclusion of the passage
 3. The first provides evidence supporting one of the two theses being compared in the passage; the second is the main conclusion of the passage
 4. The first provides data that introduce the main problem outlined in the passage; the second is a counter-argument to what has just been reported
-

23. There are 500 pupils at B. Varchi high school and each one can choose which of the following sports they wish to do during their hour of physical education: football, basketball or swimming. They can choose one, two or three sports. We know that 250 pupils only play basketball, 100 play football, 50 do all three sports, and that nobody does only two sports. How many pupils do swimming?

1. 200
 2. 150
 3. 100
 4. None of these answers is correct
-

24. Four friends (Lucia, Chiara, Alice and Valentina) decide to meet up and each one arrives on a different means of transport (scooter, car, bicycle, jeep) with a different colour (blue, red, white, green). We know that: Lucia has a scooter which is neither white nor red; Chiara doesn't own the bicycle, or the jeep and her means of transport is red; Alice's means of transport is green; Valentina has a bicycle. Assuming that the above information is true, which of the following statements is true?

1. Lucia has a blue scooter and Valentina has a white bicycle
 2. Valentina has a blue bicycle and Chiara has a red car
 3. Alice has a green car and Chiara has a red scooter
 4. Lucia has a green scooter and Alice has a white bicycle
-

25. Read the passage below carefully

Would you like to become a yoga instructor? If so, there is a wide range of yoga teaching courses you can enroll in both in your country and in India. Can you move well without any effort? This can be useful, above all when you decide to adopt certain yoga methods like Power Yoga. In any case, you should keep in mind that doing yoga goes beyond doing asanas, yoga poses. You can be flexible and be able to do difficult asanas, but this cannot be called yoga. Yoga means to develop a healthy lifestyle, both from a physical and an ethical point of view, and a strong motivation.

According to the text, a good yoga instructor:

1. has a flexible body
2. has a strong motivation and a moral attitude to life
3. is both flexible and can do perfect asanas
4. attended yoga teaching classes

26. According to the Keynesian multiplier theory, if aggregate supply is less than aggregate demand, then the process of adjustment towards the equilibrium income will involve:

1. an increase in investment
2. a reduction in savings
3. an increase in imports
4. a reduction in exports

27. Simone and Mattia are two painters that work together. Simone is more experienced than Mattia and paints more quickly; in the time it takes Mattia to finish 1 wall, Simone has already done 2 of the same size. Last week they had to paint an apartment and in total they painted 24 walls all equal. The customer said that he would pay each worker €50 for every wall painted. How much money should Simon receive for the work he did?

1. €900
2. €1,200
3. €400
4. €800

28. According to the functionalist theory of integration developed by David Mitrany, greater interdependence, in the form of transnational links between countries, should lead to what effect?

1. Political integration and peace
2. The homogenisation of welfare in the States concerned
3. The breaking up of opposing political positions
4. The birth of regimes

29. During the design and construction of condominium X the architect complied with the following guidelines:

- to have more than four rooms is a necessary condition to have a balcony
- to be on the ground floor is a necessary condition but not sufficient to have the garden
- being at the rooftop apartments is a sufficient condition to have a balcony

Assuming that the above statements are true and knowing that Chiara lives in condominium X, which of the following assertions is incompatible with what has been stated?

1. Chiara has a five-room apartment on the penultimate floor and doesn't have a balcony
 2. Chiara has a four-room apartment on the rooftop and doesn't have a balcony
 3. Chiara has a four-room apartment on the ground floor and has the garden
 4. Chiara has a five-room apartment on the ground floor and doesn't have the garden
-

Consider also the following table when answering the questions no. 30 and no. 31

Unit cost borne, unit sale price and units sold for 4 “N15” branded products at the “ElettroDomus” store (year 2019)

Product	Unit cost	Unit sale price	Units sold
Washing machines	€200	€500	1,500
Electric ovens	€150	€350	1,700
Dishwashers	€250	€450	1,600
Microwaves	€100	€250	2,500

30. On which “N15” branded product did the “ElettroDomus” store report the lowest total profit in 2019?

1. Washing machines
2. Electric ovens
3. Dishwashers
4. Microwaves

31. Knowing that in 2018 the profit on a single washing machine was 20% less than in 2019 and that 1,000 washing machines were sold, what was the total profit from washing machine sales in 2018?

1. €240,000
2. €170,000
3. €320,000
4. €280,000

32. I’m in trouble today. Could you me a favour, please?

1. made
2. doing
3. did
4. do

33. Pursuant to Article 19 (1) of the TEU, which body of the European Union shall ensure that law is observed in the interpretation and application of the Treaties?

1. The Court of Justice of the European Union
2. The European Ombudsman
3. The European Council
4. The European Commission

34. At a trout fishing competition in 2017, Mark managed to catch 12 trouts, whereas in the same competition in 2018 he caught 8 trouts. In 2017 the average number of trouts caught during the same competition by all participants was 15, with standard deviation 2.84, whereas in 2018 the average number of trouts caught fell to 6, with standard deviation 1.56. Knowing all of this, to which pair of points Z does the number of trouts caught by Mark in the two competitions correspond?

1. +1.92 and -0.28
 2. -2.02 and +1.12
 3. -1.06 and +1.28
 4. None of these
-

Consider the passage below, which must be completed in some parts when replying to questions no. 35 to no. 39

Among the endless questions that engineers must consider when thinking about exploring Mars, one of the most important is, “What (a) _____?”

Everyone has seen pictures of astronauts on the space station hanging out in shorts and t-shirts. That’s something you can (b) _____ when you’re in stable flight in a big spaceship. Once the astronauts have explored Mars and are back in the Mars Ascent Vehicle (MAV), however, there’s nowhere else to go. If you accidentally punch a hole in it somewhere, you (c) _____ have a space suit on. But, which suit? The ones the astronauts (d) _____ while on the surface of Mars—the extra-vehicular activity suits—are heavy and bulky. If the astronauts were to wear those aboard the MAV, engineers would have to design a larger cabin size.

And what about the Martian dust that will be clinging to the suits? That’s not anything astronauts should be bringing home without first going through the proper planetary protection protocols.

Scientists believe the best solution is to leave the bulky suits behind on Mars, where future explorers of the Red Planet could salvage them for parts. Departing astronauts could instead don “intra-vehicular activity” (IVA) suits, (e) _____ the puffy, orange outfits that other space crew have worn aboard their spacecraft during launch and reentry.

35. Which of the following words correctly completes the blank space marked with the letter (a)?

1. will wear the astronauts
2. will be wearing the astronauts
3. will the astronauts be wearing
4. will the astronauts wear

36. Which of the following words correctly completes the blank space marked with the letter (b)?

1. get away with
2. put up with
3. go away with
4. do away with

37. Which of the following words correctly completes the blank space marked with the letter (c)?

1. would better
2. should
3. ‘d better
4. should better

38. Which of the following words correctly completes the blank space marked with the letter (d)?

1. have worn
2. will have worn
3. will be wearing
4. will have been wearing

39. Which of the following words correctly completes the blank space marked with the letter (e)?

1. similar to
 2. as
 3. similar
 4. likely
-

40. International treaties produce rights and obligations:

1. only for signatory States
 2. between signatory States and other States
 3. only between other States
 4. only between UN Member States
-

41. The internal rate of return (IRR) is:

1. the rate that expresses the return of an investment in relation to its useful life
 2. the discount rate (if it exists and is greater than -100%) that sets at zero a series of cash flows (positive and/or negative)
 3. the best rate that the company can obtain on the market for an investment plan
 4. the rate applied to a loan gross of all ancillary charges
-

42. A restaurateur decides to investigate whether there is a relationship between the choice of seafood or meat dishes and the fact that customers come for lunch or for dinner. The data is shown in the table below:

Meal type	Dish type		Total No. of customers
	Meat	Seafood	
Lunch	57	73	130
Dinner	114	146	260

Looking at the contingency table, which gives the frequencies of the various occurrences, it is possible to conclude that:

1. the percentage of meat dishes chosen at dinner is double that at lunch
 2. the choice of seafood or meat dishes depends on the type of meal (lunch or dinner)
 3. the choice of seafood or meat dishes does not depend on the type of meal (lunch or dinner)
 4. the percentage of seafood dishes chosen at dinner is double that at lunch
-

43. Read the passage below carefully

The Tyrannosaurus Rex, a reptile that lived 60 million years ago, has been the subject of numerous studies. Analysing the thickness and length of the bones, researchers have come to the conclusion that, on the basis of the skeletal structures they have examined, different forms of this reptile existed. The Tyrannosaurus Rexes that lived in mild climatic regions had much longer and thicker bones compared to those that lived in more harsh climatic regions. It seems that this difference was due, in mild regions, to the abundance of food and, vice versa, due to a lack of food in regions with harsh climate.

Which of the following statements would strengthen the passage's conclusion?

1. A Tyrannosaurus Rex fossil was found and following an examination of its bones it was possible to deduce that it died because of a lack of sustenance
 2. Some researchers found a group of fossils of different species, an analysis of which showed that they had different growth rates
 3. A recent study has highlighted a positive correlation, in the animals, between abundant nutrition and the growth of their bones in terms of both thickness and length
 4. The analysis of the bones of a Tyrannosaurus Rex made it possible to deduce that they always lived in the same environment and that their growth was constant
-

Reply to the questions no. 44 to no. 49 blacking out on the *answer sheet* the box:

1. if just one statement, either A or B, is sufficient on its own to solve the problem, but the other statement alone is not;
2. if statements A and B need to be combined to solve the problem, even though neither is sufficient on its own;
3. if both statements A and B are sufficient on their own to solve the problem;
4. if the problem cannot be solved by combining statements A and B as additional data is required.

44. Andrea, Roberto and Leonardo took a statistics test. The average of their marks is 25. What is the median of the three marks?

Statement A. Andrea got 23.

Statement B. Roberto got 25.

45. Model A of the Ryo car costs €36,000. How much does model A of the Kun and Dak cars cost?

Statement A. The cost of model A of the Kun car and the cost of model A of the Ryo car are in the ratio 2:3 respectively.

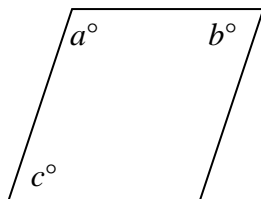
Statement B. Model A of the Dak car costs twice as much as model A of the Ryo car.

46 Until now Mario has paid €350 a month to rent his room. From next month his rent price will change. How much will Mario have to pay next month to rent his room?

Statement A. Mario's rent will increase to four times what he spends on bills each month.

Statement B. Mario's electricity bill comes to €25 a month.

47. What is the value of a in the parallelogram in the figure?



Statement A. $a : b = 4 : 1$

Statement B. $c = b$

48. In a city all families have two cars. How many petrol cars are there in the city?

Statement A. 40% of families have a methane-powered car.

Statement B. The population of the city is 20,000.

49. Knowing that x is an integer, is x an odd number?

Statement A. $x^2 + 3$ is an even integer

Statement B. $x - 4$ is an odd integer

50. Read the passage below carefully

Every day people die because of car accidents so we are taking steps to reduce the problem of drunk driving and other problems on the road caused by human error. Nowadays the car industry is developing driverless cars (also named 'autonomous cars'). These cars can sense the environment around them without human intervention. This will help avoid crashes and alert drivers to any possible dangers. Apparently, you will be able to ask your car to pick you up wherever you want. But at the moment a human being is still needed to take control of the car if necessary.

According to the passage, driverless cars:

1. are superior to human beings in every way
2. will help reduce car accidents and problems on the road
3. will make drivers drink less
4. are modern taxis

51. Three people take part in a fishing competition: Mario, Andrea and Luca. Once the competition is over each of them reveals something about the final result. Mario says that he won; Andrea says that Mario won; Luca says that Andrea won. Knowing that only one of them is telling the truth and that the others are lying, what is the only possible result?

1. Luca won the competition
2. Andrea won the competition
3. Mario won the competition
4. It isn't possible to say

52. In the aftermath of World War II, even the parties that had reappeared in public life during the war, after a long period undercover, were very different from in the pre-fascist period. In this regard, it is correct to say that:

1. in 1946, after the dissolution of the Comintern, the Communist Party of Italy, led by Palmiro Togliatti, changed its name to the Italian Communist Party
2. the Action Party was founded in 1942 by a coming together of the liberal-socialist movement and the Labour Democratic political alliance
3. in 1943 the Socialist Party, led by Pietro Nenni, had taken the name Italian Socialist Party of Proletarian Unity (*PSIUP - Partito Socialista Italiano di Unità Proletaria*)
4. in 1944 the first Italian united trade union, the Italian General Labour Confederation [*Confederazione Generale Italiana del Lavoro (CGIL)*] was set up

53. Mauro says to his manager: "if I have a month of holidays to take, I'll go on a cruise". After returning from his holidays Mauro says that he took a two-month holiday. Therefore:

1. Mauro went on a cruise
2. Mauro didn't go on a cruise
3. none of these answers is correct
4. Mauro went on holiday to the seaside, but we don't know if he went on a cruise or not

54. In a packaging factory there are 10 workers who work 4 hours and 20 workers who work 8 hours. Every working day (= 8 hours), with all workers present and working at the same speed, the factory produces 100 pieces of packaging. Today there are 8 workers who work 4 hours and 17 workers who work 8 hours. How many pieces of packaging will be produced today?

1. 84
 2. 90
 3. 75
 4. 93
-

55. The market for anchovy paste in tubes is made up of about twenty different companies, which produce similar but not identical goods, which are easily substitutable. What type of market is it?

1. Perfect competition
 2. Monopolistic competition
 3. Monopoly
 4. Duopoly
-

56. Livia and Maria are two friends who live 35 km apart. When they decide to meet up they leave home at the same time using different forms of transport. Livia goes by car and travels at an average speed of 50 km/h while Maria goes by bicycle and travels at an average of 20 km/h. How long will it take them to meet each other?

1. 30 minutes
 2. 55 minutes
 3. 45 minutes
 4. 50 minutes
-

57. Next weekend I to London. The flight is already booked!

1. will fly
 2. fly
 3. am flying
 4. flying
-

58. According to utilitarian doctrine, in evaluating the utility of an action, what value does the *animus* of the person carrying it out have?

1. It is relevant only in relation to the results it produces
 2. It is relevant only if it is an expression of the majority
 3. It is completely irrelevant
 4. It is irrelevant if it is an expression of a minority
-

59. Read the passage below carefully

What was thought to be a stolen artwork by Pablo Picasso recently discovered in Romania has been revealed as a forgery. Experts had hoped that the painting was Harlequin Head, snatched from the Kunsthal museum in Rotterdam in an infamous art heist six years ago.

The theft of the century, as the 2012 heist was dubbed by local media, saw pieces by Picasso, Monet, Matisse and others taken in three minutes. Four Romanian art thieves were jailed for the heist, but the seven artworks - estimated to be worth as much as €200m (£160m) at the time - were never recovered.

Some of the pieces are feared to have been burned by one of the robbers' mothers - who told local media she incinerated the paintings after police began searching her village. She later retracted her confession.

Where were the artworks found?

1. They still have not been found
 2. They were recently discovered in Romania
 3. They were found in a small village outside Rotterdam
 4. They were found in the fireplace of one the robbers' mothers
-

Consider the following passage when answering the questions no. 60 to no. 64

The trend of the moment is rampant on the streets of major cities, a trend made of skinny jeans, t-shirt basic reduced to the essential details, plaid shirts, worn shoes and a radical chic combination of technological gadgets and vintage accessories, namely hipsters. These are middle-class youth interested in alternative culture of the large urban centers, fascinated by particular and niche music genres as indie rock, independent film, and with an exasperated interest towards cultures and emerging metropolitan lifestyles. The term hipster however, is not a neologism coined today: this word was invented in the United States during the 40s to describe jazz and bebop fans; lower-middle class white boys wanted to emulate the great Afro-American jazz musicians and their lifestyle. The hipster subculture developed mainly after the Second World War, when the movement began to be associated with a flourishing literary movement; the most precise definition of hipster is definitely given by the writer Norman Mailer, who writes of an individual who decides to "split from society, living without roots and embarking on a mysterious journey in subversive imperatives of the ego". In Italy, the typical hipster can be identified thanks to the combination of retro flair and high-tech accessories: a rusty bicycle and the latest generation iPhone, bio vegetarian grocery shopping, not to mention the firm place in the world of art, fashion and music. The Sunday Times chose Bologna as the hipster city symbol in Italy but, despite the choice of the British magazine, Milan seems to openly defy the capital of Emilia to combat the supremacy of the perfect hipster!

60. As reported in the passage, all of the following are characteristics of a hipster, except one. Which one?

1. Be passionate about independent cinema
2. Listen to Metal music
3. Follow the radical chic fashion
4. Wear vintage accessories

61. What is the main purpose of the passage?

1. Ranking Italian cities with a higher presence of hipsters
2. Advertise more clothing brands purchased by hipsters
3. Describe the hipster tendency from its origins to our days
4. Present Norman Mailer as the first hipster in history

62. The content and style assume that the passage is taken from:

1. a sociology magazine
2. an essay of developmental psychology
3. an article on politics
4. a foreign newspaper

63. Which of the following captures the overall sense of the passage and could be chosen as the title?

1. Who are hipsters?
 2. Milan, hipster fashion capital
 3. Vintage Fashion and no technology: the new hipsters
 4. From the Sixties to our days: no difference between the two hipsters
-

64. On the basis of the information contained in the passage which of the following statements is false?

1. Bologna is the hipster city symbol in Italy according to the Sunday Times
 2. The term hipster is of U.S. origin
 3. The hipster style is based on a mixture of modern and ancient factors
 4. The term hipster was invented in the last decade
-

65. The NPV is the algebraic sum of all the discounted cash flows generated by an investment project. It is used:

1. to calculate the amount of capital required to make an investment
 2. to assess the advantage of one investment project over others or over other ways of using the capital
 3. to define the correct distribution between self-financing and using external sources to make the investment
 4. to enter assets in the annual financial statements in the right form for tax purposes
-

66. The process of European integration regained strength, expanding the area of community integration from industrial policies for the steel industry to other key sectors of economic development, in particular as a result of the ideas of:

1. Jean Monnet
 2. Alcide De Gasperi
 3. Robert Schuman
 4. Charles De Gaulle
-

67. Marta receives a discount for restaurant X in the post which specifies the following condition: “discount valid only if you spend more than 30 euro”. Assuming that the previous information is true, which of the following statements is false?

1. If Marta doesn't spend more than 30 euro, she can't use the discount
 2. If Marta used the discount it means that she spent more than 30 euro
 3. If Marta didn't use the discount it means that she didn't spend more than 30 euro
 4. None of these
-

68. Luca put 5 pairs of football boots and 2 pairs of goalkeeping gloves in his gym bag. Each pair of boots and each pair of gloves has a different colour. When Luca is changing, the lights go out in the gym and he wants to be sure that he will pull out 2 football boots of the same colour and 2 gloves of the same colour. What is the minimum number of boots and gloves he has to take out from his bag to be sure?

1. 5 boots and 2 gloves
 2. 6 boots and 3 gloves
 3. 10 boots and 2 gloves
 4. 5 boots and 3 gloves
-

69. “All teachers are well prepared. Anna is a reader. All teachers are readers”. Which of the following additional pieces of information enables us to deduce that Anna is a teacher?

1. “All teachers are not readers”
 2. “Anna is well prepared”
 3. “All readers are teachers”
 4. “Not all readers are teachers”
-

70. Which of the following sentences is grammatically correct?

1. Labor expenses, limited availability of shells, foreign competition, changes in fashion, zippers, and developing and refining plastics made it impossible for companies to earn a profit from pearl.
2. The intensity of the response to pain is largely subjective; that is, the severity of the pain can most accurately be defined by the person with the pain, instead by other observers.
3. The long-running primary source of toy manufacturing is still China, but cost savings in manufacturing and shipping as well as quicker re-supply times are rapidly changing the status quo.
4. Seeing that James was having difficulty to finish all of his work on time, his boss suggested him to hire an assistant.

Consider the following data to answer the questions no. 71 and no. 72

In a game of marbles, the red marbles are the most valuable. A red marble is worth 25 green marbles; a green marble equals 50 blue marbles; a blue marble corresponds to 20 white marbles or 40 yellow marbles.

71. Giulia has 1 red marble and 30 green marbles. Which of the following combinations of marbles is worth more than hers?

1. 1,250 blue marbles and 30,000 white marbles
2. 50,000 yellow marbles and 1,300 blue marbles
3. 100,000 yellow marbles
4. 60,000 white marbles

72. How many white marbles are 120 green marbles worth?

1. 100,000
2. 200,000
3. 120,000
4. 70,000

73. Read the passage below carefully

A canvas found in south-east Germany, where according to reliable sources it was also painted, seems to date to a year between 1521 and 1525 but hasn't yet been attributed to a specific artist. The technique with which it was painted has made it possible to exclude all but two artists of the period, G. Flynn and R. Talbot, as it displays traits of the work of both men. However, it is possible to attribute the canvas to R. Talbot as _____.

Which of the following completes in the most logical way the above argument?

1. G. Flynn died in 1523 whereas R. Talbot died later, in 1535
2. we know from reliable sources that G. Flynn never travelled as far as southern Germany
3. there is no additional information enabling us to attribute it beyond doubt to G. Flynn
4. the canvas portrays a woman and R. Talbot was famous for his portraits

74. According to the IS-LM model, what effect does an increase of government spending have on the interest rate and income?

1. They both decrease
 2. The interest rate increases and income decreases
 3. They both increase
 4. The interest rate decreases and income increases
-

75. Read the passage below carefully

The US is a country shaped by immigration - but at many times in its history, there has been controversy over new arrivals. A closer look at those who call the country home reveals the great changes that have taken place and the contribution immigrants make.

Today, nearly 14% of the population of the US was born abroad. This is a sharp rise from the historical low of just under 5% in 1970 but roughly the same as between 1870 and 1910. After a wave of arrivals from Europe in the late 19th century, immigration fell dramatically - from about one million a year in 1910 to only 165,000 by 1924. This was largely the result of limits on the number of immigrants from particular countries, but the economic turmoil of the Great Depression and the two world wars also played a part.

Today, the foreign-born population varies widely across the country, ranging from under 5% in parts of the South East and Midwest, to more than 20% in California, Florida, New Jersey, and New York.

Today in the US:

1. the Great Depression continues to create economic turmoil
2. immigration accounts for 5% of the population
3. most people prefer to live in California, Florida, New Jersey, or New York
4. immigrants constitutes 14% of US residents

76. Architecture students usually photocopy books or notes at the Scarabocchio print shop or at the Cartapiù print shop. At Scarabocchio customers are required to pay €5 for the membership card for the first time and then €0.50 for every page photocopied. Cartapiù does not have a membership card but it charges €0.60 for every page photocopied with a 10% discount if you go over 50 pages. Andrea is an Architecture student who has to photocopy a 100-page book and for the first time he goes to the two print shops to decide which is the most economical. Which will he choose?

1. Cartapiù, making a saving of less than €10
2. Scarabocchio, making a saving of less than €5
3. Cartapiù, making a saving of over €10
4. Scarabocchio, making a saving of over €5

77. In Italian joint-stock companies [*Società per Azioni*] directors are appointed by:

1. the Shareholders' Meeting
2. the Board of Directors with a simple majority
3. the shareholder who has acquired the largest number of shares issued by the company
4. shareholders with preferred shares

78. Which of the following sentences is grammatically correct?

1. Looking back, I made some irresponsible choices about how to pay for my college degree, but hindsight doesn't help pay for those mistakes.
 2. According to one travel expert, there are simply things you can do to enjoy your trip to the fullest, from packing light to eating family-style meals in order to try as many new dishes as possible.
 3. Taking a month-long break from alcohol poses major benefits for your wellbeing, also if you don't plan to stick to your resolution of sobriety when the month is over.
 4. Talking about how she loves decorating her new flat, Beth says you can put your own stamp and style into a rented property without actually have to redecorating.
-

79. What shape do isoquants take in the presence of inputs that are perfect complementary?

1. Line
 2. Convex shape
 3. Concave shape
 4. L-shape
-

80. Read the passage below carefully

In a city the population's main source of food is a species of fish that lives in the River Lynna. The city isn't far away from the sea where there is a very dangerous species of shark that is able to swim along rivers and eat the fish that the people live on. A dam has recently been built to prevent the shark from accessing the river, enabling the city's inhabitants to keep the fish for themselves. Nevertheless, the number of these fishes continues to fall even if the population does not fish it in greater quantities than they did before the dam was built.

Which of the following statements could explain the reason for this discrepancy?

1. The number of the sharks is also falling, probably because of sea fishing by the population which lives close to the coast
 2. The fish are free to swim right along the river now that the threat of the shark has been eliminated
 3. In the city crossed by the River Lynna, this fish is also fished by women and youths
 4. The shark is not the only predator of the species of fish that lives in the River Lynna
-