

LUISS



**MASTER'S DEGREE COURSES
IN ECONOMICS**

Admission Test

TRAINING

1.22

INSTRUCTIONS

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 answer.

Here are some examples of the kind of questions that you will find in the test and with explanations for how you should respond.

Carefully read the examples and explanations relating thereto.

EXAMPLES AND EXPLANATION OF QUESTIONS

In the example below is proposed a passage; after reading it, answer the question relating to it by referring to only the information in the text.

Read the passage below carefully:

On the economic front, there are nevertheless clear signs of rapid change, one of which is connected with corporate restructuring which is now much more frequent than in the past, even as a way of tackling international competition.

Now study example **E1** and, bearing the passage in mind, decide which of the statements is correct:

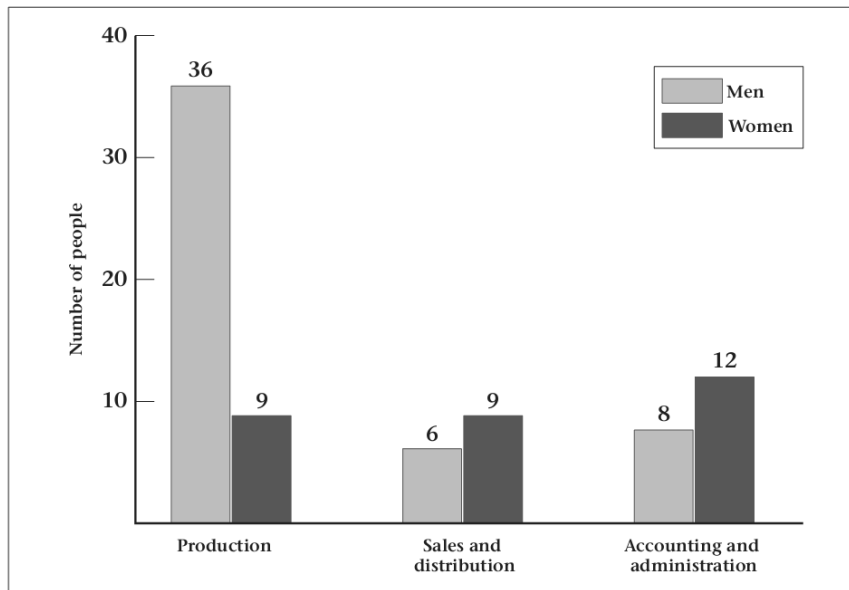
E1. From the reading of the passage it emerges that:

1. the small businesses in our country do not have problems of restructuring
 2. international competition has an impact on the need for businesses to restructure more frequently than in the past
 3. our products are competitive above all abroad
 4. our country is still economically borne up by the small and medium enterprises
-

The correct answer is “international competition has an impact on the need for businesses to restructure more frequently than in the past” (statement 2).

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

E2. What is the percentage of women who work at Rossi & C.?



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

To find the percentage of women who work at Rossi & C., 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% (option 4).

Now read the passage below:

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 “Daily physical exercise is not responsible for the results emerging from the study” (statement 1), 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.

In the example **E4**, the question is made up of two parts. That is, first a **problem**, followed by **two statements** indicated by the numbers **(1)** and **(2)**. You have to decide which statement or statements are necessary, if any, in order to solve the problem. To answer you must choose:

- A. if statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not or vice versa
- B. if statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient
- C. if either statement BY ITSELF is sufficient to answer the question
- D. if statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem

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 (1). On average, a meal in Mary’s restaurant costs €15.00 per person.

Statement (2). Every day Mary serves approximately 400 meals in her restaurant.

- 1. A
- 2. B
- 3. C
- 4. D

The correct answer is B (option 2) because neither of the statements taken on its own is sufficient to solve the problem; statement **(1)** does not tell us how many meals are served, while **(2)** 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).

In the test, you will also be presented with questions on specific culture, numerical reasoning and logic.

TEST START

Consider the following passage when answering the next question

The transition from an economy based on industrial production to an economy oriented towards information and knowledge has intensified connections between science and technology and relationships between research centres and manufacturing and services businesses. A role in this process is played by research spin-offs, or entrepreneurial activities budded from academic environments or public research centres. They are set up when a group of researchers leave a public research institute to form an independent entrepreneurial group and are particularly crucial in this “**knowledge market**”. The academic or research spin-offs are not a completely new phenomenon. Many are the examples of academic spin-offs whose development led to the birth of large industrial groups which are well-known today. For example, the German chemist Heinrich Caro contributed to the start-up of Basf and two other students of his mentor von Liebig played a decisive role in launching Hoechst.

1. The expression “knowledge market” indicates:

1. the economy associated with learning
2. the illegal trade in scientific discoveries
3. the development of the book trade
4. the creation of a network of scientists

2. "It isn't true that Maria isn't short" means the same as:

1. Maria is tall
2. Maria is not short
3. Maria is short
4. Maria is chubby

3. Calculate the value of the following limit: $\lim_{x \rightarrow 0} \frac{\ln(3x^2 + 1)}{\ln^2(x + 1)}$.

1. $3/2$
2. 3
3. $+\infty$
4. 0

4. Three lamps flash intermittently as follows: the first one every 3 seconds, the second one every 5 and the third one every 9.

If three light up simultaneously at 8 o'clock, after how many seconds will they light up simultaneously again?

1. 45
2. 35
3. 40
4. 50

Consider the following passage when answering the next question

The certification Protected Designation of Origin (PDO) offers guarantees at all levels of the productive process: origin, the provenance of raw materials, localisation and traditions of the production methods. The particular qualities and characteristics of the product must be derived exclusively or essentially from the geographical environment of the place of origin; moreover, the processing of ingredients and their transformation into the final product must be undertaken within the region contained in the name of the product. The Protected Geographical Indication (PGI) has less stringent regulations than the PDO since the product is not strictly related to the territory and the product specifications are much more flexible. Besides these two important certifications there is also the Traditional Specialty Guaranteed (TSG) which was created with the purpose of protecting and defining certain products (such as the Neapolitan pizza), whose specific character is related to the recipe and certain production methods rather than to the place of origin of the product, even though it has always to meet the requirement of the traditional method of production.

5. The certification that protects more the link between products and geographical areas is:

1. the Protected Geographical Indication
2. the Traditional Specialty Guaranteed
3. the Protected Designation of Origin
4. Italian Food

6. Financial flows deriving from investment activities include:

1. investments and disinvestments relating to tangible and intangible fixed assets
2. investments and disinvestments relating to financial fixed assets
3. investments and disinvestments relating to tangible, intangible and financial fixed assets
4. investments and disinvestments relating to tangible, intangible and financial fixed assets plus acquisitions or cessions of company divisions net of liquid assets

Consider the following passage when answering the next question

The most evident proof that Italian industry reinvented itself in international specialization is that, in 2012, 71% of the 105 billion trade surplus in manufacture – except cars and electronics (sectors traditionally in deficit) – was represented by new specializations against 41% in 2000. What was particularly extraordinary was the increase in the surplus of the non-electric machines and appliances, which amounted to 22 billion in 2000 and rose to 48 billion in 2012. In this sector Italy boasts the highest foreign assets in the world after two giants, that is to say Germany and Japan. Therefore, if Italy does not grow, this is not due to the lack of competitiveness on international markets, as the new successful specializations demonstrate, but rather to the progressive decline of the family's purchasing power and, more recently, to the drop of the domestic demand. Nor could there be a doubt that Italy, despite its problems, has massive productive means which, if adequately addressed, can allow it to gradually recover from the crisis.

7. According to the author, Italian modest growth depends on:

1. scarce competitiveness on the international markets
2. limited domestic demand
3. scarce innovation
4. a dominating manufacturing industry

Consider also the following information to answer the next two questions

A riyal in Saudi Arabia is divided into 20 qurush or 100 halala.

8. How many riyal do 395 halala correspond to, with the remainder expressed in qurush?

1. 3 riyal and 95 qurush
2. 8 riyal and 98 qurush
3. 3 riyal and 96 qurush
4. 3 riyal and 19 qurush

9. How many riyal do 132 qurush correspond to, with the remainder expressed in qurush?

1. 3 riyal and 19 qurush
2. 6 riyal and 12 qurush
3. 60 riyal and 12 qurush
4. 1 riyal and 32 qurush

10. In Stackelberg's oligopoly model:

1. the company that has the advantage of the first move achieves greater profits
2. the company that has the advantage of the second move achieves greater profits
3. the profits of the two companies are equal
4. the company that leads produces less than the company that follows

11. A survey carried out among a sample of 100 voters revealed that 48 of them will vote in the next referendum and 52 will not. For the referendum to be valid, more than 50% of those entitled to vote must go to the polls.

Is it possible to state that the quorum will be achieved, using an appropriate hypothesis test with a significance level $\alpha = 0.05$?

1. Yes, it is possible to state this, since the confidence interval with $1 - \alpha = 0.95$ for the proportion p of those who will go to vote is $[0.3821; 0.5779]$
2. I apply the directional hypothesis test Z with $H_0: p \geq 0.5$ and $H_1: p < 0.5$. I do not reject H_0
3. I apply the directional hypothesis test Z with $H_0: p \geq 0.5$ and $H_1: p < 0.5$. I reject H_0
4. There is insufficient information to be able to state this

12. The essential elements of the contract are the agreement, the cause, the subject and the form, when it is a mandatory prerequisite for validity. As for the subject, this must be:

1. possible and lawful
2. possible, lawful, determined or determinable
3. possible, lawful and indeterminable
4. lawful

13. In the morning a student reads $\frac{3}{4}$ of a book of 400 pages; in the afternoon he then reads $\frac{2}{5}$ of the remaining pages.

How many pages does he still have to read to finish reading the book?

1. 60
2. 80
3. 40
4. 100

14. Read carefully

Lombardy and Piedmont are competing to attract new residents. In Lombardy, 12,000 thefts are committed a year, while in Piedmont only 10,000 are committed. The authorities of Piedmont have used these figures to attract possible new residents and assert that their region is safer than Lombardy.

Which of the following, if true, would open a crack in the argument of Piedmont being safer?

1. Most thieves in Piedmont are repeat offenders
2. Lombardy has a population ten times greater than that of Piedmont
3. Piedmont has fewer cities than Lombardy
4. Lombardy has a better prison system than Piedmont

15. Internal Rate of Return (IRR) of an investment means:

1. the interest rate paid for the quota of the investment financed with third party capital
2. the interest rate according to the compound discount law which equals discounted cash inflows with discounted cash outflows
3. the discount rate according to the compound discount law of the incoming cash flows generated by the investment
4. the discount rate according to the compound discount law of the outgoing cash flows generated by the investment

Consider the following passage when answering the next question

For most Italians, Africa is still the continent of poverty, wars, escaping refugees, with areas controlled by the lords of war and terrorism. Italian entrepreneurial sector demonstrates a superficial perception of it: the corporate groups in Africa are few and located only in the countries with strong economic growth while small and medium-sized enterprises avoid the African market considering it still too dangerous. “Problematic” aspects of Africa still exist, but they are starting to change. The continent is in its full economic development with an average economic growth rate (GDP per capita) of 5% during the last ten years, expected to rise to 6% in the next five years. In the same period, the regional human development index – an indicator that measures various aspects of the quality of life, in addition to the mere average wealth per capita – has improved and conflicts have halved. A new middle class with higher purchasing power is emerging. Africa’s ratio of savings rate to GDP is inferior only to Asia. African manufacturing is developing at a good growth rate. If the current figures are important, the future potential is impressive.

16. Italian enterprises:

1. are currently investing heavily in Africa
2. disinvest due to the big problems that still exist in Africa
3. have a limited perception of the emerging opportunities in the African continent
4. still have colonialist behavior

17. A train travels at constant speed and covers 80 km in one hour.

How many km does it cover in 15 minutes?

1. 30
2. 20
3. 25
4. 40

18. A multiple choice test has 5 questions, each with 5 possible answers.

If a student always answers at random, what is the probability of correctly answering exactly 3 questions?

1. 0.0512
2. 0.0016
3. 0.008
4. 0.00032

19. Read carefully

In Nigeria, the percentage of Adamawa residents who contract malaria in a year is significantly lower than the percentage of Bauchi residents who contract the same disease in a year. Therefore, if a couple originally from Bauchi moves to Adamawa and decides to stay there to raise their children, they are much less likely to contract the disease than if they had not grown up in Bauchi.

Which of the following statements, if true, would weaken the conclusion given in the passage the most?

1. The lower incidence of the disease in Adamawa can be attributed primarily to genetic factors
2. Many health experts do not believe that moving to Adamawa results in a significant increase in a person's average immune capacity
3. Over the past two decades, the incidence of the disease has remained unchanged in both Bauchi and Adamawa
4. Adamawa's smog levels are significantly lower than those of other cities in the country

20. Mum and dad take their son to the theatre: the ticket for the parents costs 30 euros each, while for the son there is a 40% discount.

How many euros do they spend in total to watch the play?

1. 78
2. 76
3. 62
4. 60

To answer the next question, choose answer choice:

- A. if statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not or vice versa
- B. if statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient
- C. if either statement BY ITSELF is sufficient to answer the question
- D. if statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem

21. Is the volume of cylinder X greater than the volume of cylinder Y?

Statement (1) The volume of cylinder X is 150 percent of the volume of cylinder Y.

Statement (2) The volume of cylinder Y is 60 percent of the volume of cylinder X.

- 1. A
- 2. B
- 3. C
- 4. D

22. The Beta company holds 32% of votes at the ordinary shareholders' meeting of the Gamma company, which is listed on the stock exchange.

Specifically, for this type of interest, we are talking about:

- 1. share in affiliated undertaking
- 2. share in a subsidiary company
- 3. an investment that does not constitute a fixed asset
- 4. none of the other answers is correct

Consider the following passage when answering the next question

Most of the students do not look for textual information in books, but on the web, and often in video format on YouTube. «The reading practice has changed: – observes a university professor – it has now turned into zapping and increasingly fast texting». As Roberto Casati writes in *Against Digital Colonialism: Instructions To Keep On Reading*, the practice of reading has been stolen. By what? By a **digital run-up** whose content ends up being simply an app. Unfortunately, this happens even in the school environment where it is forgotten that paper books are irreplaceable cognitive tools, because they protect, and do not attack, people's most precious mental resource: their attention, their concentration. In the US, the use of tablets in schools has turned out to be counterproductive in some cases. The size of the book, the permanently printed words on the paper, the lack of images, the absence of interactivity will radically come up against the continuous flow of digital information, multimedia, and interactivity. One may wonder what the publishing sector will be experiencing in thirty years' time. Will books still exist? Will books look as we know them or will they turn into something different?

23. What is the meaning of “digital run-up” in this context?

- 1. Culture is spurred on by the digital revolution
- 2. There are always new apps on the market
- 3. Digital formats tend to replace the traditional ones
- 4. Older generations go after the young as for the use of digital contents

Consider also the table below to answer the next three questions

The table below shows the production costs, sale prices and the quantity of products that have been sold by Taviani S.p.A. in 2020.

	Production cost	Sale price	Items sold (in thousands)
T-Shirt	€12	€20	10
Singlet	€13	€20	8
Shirt	€7	€15	15
Trousers	€15	€25	15

24. What was the total income from the sale of singlets in 2020?

1. €13,000
2. €20,000
3. €56,000
4. €160,000

25. On which product does Taviani S.p.A. realize the highest income?

1. T-Shirt
2. Singlet
3. Shirt
4. Trousers

26. The percentage profit is the difference between production cost and sale price, as percentage of the production cost.

Which product generated the greatest percentage profit for Taviani S.p.A.?

1. T-Shirt
2. Singlet
3. Shirt
4. Trousers

27. The GDP deflator, in a given year, increases if:

1. nominal GDP grows by a percentage higher than that of real GDP
2. nominal GDP grows by a percentage higher than that of nominal NDP
3. nominal GDP in year “t” grows with respect to nominal GDP of the year “t – 1”
4. interventions on foreign exchange markets are accompanied by interventions aimed at neutralizing their effects on the monetary base

28. Let the function $f(x) = \sqrt[3]{x^3 + 1}$ be defined in \mathbb{R} .

Which of the following statements is false?

1. In $x_0 = -1$ the function $f(x)$ is continuous
2. In $x_0 = -1$ the function $f(x)$ is not derivable
3. In $x_0 = -1$ the function $f(x)$ has an inflection point with a vertical tangent
4. In $x_0 = -1$ the function $f(x)$ has a cusp

To answer the next question, choose answer choice:

- A. if statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not or vice versa
- B. if statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient
- C. if either statement BY ITSELF is sufficient to answer the question
- D. if statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem

29. Is x^3 an odd integer?

Statement (1) x is an even integer.

Statement (2) The square root of x is an even integer.

- 1. A
- 2. B
- 3. C
- 4. D

30. Read carefully

As shown in a recent study, a diet low in animal fats and dairy products significantly reduces the risk of heart attacks. The study asserts that only 10% of those who follow such a diet have a heart attack in their lifetime.

Which of the following statements would weaken the arguments made in the passage the most?

- 1. Diets low in dairy products and animal fats are also low in calcium, which is useful for bones
- 2. People who eat dairy products but not animal fats are twice as likely to be at risk as those who do not eat either of them
- 3. Animal fats and dairy products are rich in cholesterol, which clogs arteries and causes cardiovascular problems
- 4. 8% of those who regularly eat dairy and animal fats suffer heart attacks in their lifetime

31. A debt due to banks is:

- 1. a financing debt
- 2. an operating debt
- 3. an accrued expense
- 4. a deferred income

32. Marco is taller than Massimo. Massimo is shorter than Giacomo. Giacomo is shorter than Piero.

Therefore:

- 1. Marco is taller than Giacomo
- 2. Marco is shorter than Giacomo
- 3. Massimo is shorter than Piero
- 4. Piero is taller than Marco

33. I bought a dress, spending 130 euros. In another shop the same dress was priced at 156 euros.

By what percentage was the price higher in the second shop?

1. By 20%
2. By 25%
3. By 30%
4. By 10%

34. An initial investment of €10,000.00 generates a return of € 4,500.00 the first year, €3,700.00 the second and €3,500.00 the third.

Assuming a debit rate of 7.00% and a credit rate of 2.50%, evaluate the convenience of the investment using the Teichroew, Robichek, Montalbano method:

1. the principal and interest in T_3 is positive and, therefore, the investment can be considered convenient
2. the principal and interest in T_3 is negative and, therefore, the investment can be considered not convenient
3. the principal and interest in T_3 is zero and, therefore, the convenience of the investment can be considered neutral
4. since the difference between the debit and credit rates exceeds 4.00%, the T.R.M. method loses significance

Consider the following passage when answering the next question

The strength of the “made in Italy” lies in the little appreciated “niches” and in the high diversification of its specializations which are mainly centred on four sectors, that is to say, Food, Fashion, Home Furniture and Automation, but also on other important sectors such as steel, paper, chemical-pharmaceutical industry. Thousands of medium-large, medium and small-sized businesses are the protagonists of this success that enables Italy to compete with countries that can count on many more large-sized groups with multinational relevance, but that do not have the same flexibility and operative skills in hundreds of product types with almost “tailored” characteristics. It is in these areas of activity that successful factors of the “made in Italy” emerge, such as creativity, innovation, quality, design and a marked “industrial craftsmanship”, that is the ability to produce almost “tailored” goods for customers, even in hi-tech sectors such as the mechanical industry and the means of transports.

35. It is correct to infer from the text that:

1. it is good to focus on high diversification
2. industrial policy has to focus more on large-sized businesses
3. measures must be taken to attract multinationals
4. industrial reconversion must be favored

36. Complete the sequence: 7 – 21 – 36 – 52 –

1. 69
2. 54
3. 60
4. 40

37. In Italy, which of the following contracts is not considered a typical contract?

1. The sale or return contract
2. The lease contract
3. The catering contract
4. The contract of free loan for use

38. Identify the couple needed to complete the following semantic equation:

X : sound = semantics : Y

1. X = phonology; Y = meaning
2. X = music; Y = syntax
3. X = note; Y = word
4. X = hearing; Y = word

To answer the next question, choose answer choice:

- A. if statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not or vice versa
- B. if statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient
- C. if either statement BY ITSELF is sufficient to answer the question
- D. if statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem

39. Mario owns a total of 60 shirts and T-shirts. How many shirts does he have?

Statement (1) If he buys 10 more T-shirts, he will have 55 shirts.

Statement (2) He has three times as many T-shirts as shirts.

1. A
2. B
3. C
4. D

40. “All economists are skilled at mathematics. Fabrizio loves to play chess. Whoever loves to play chess is passionate about logic”.

Based on these statements, which of the following conclusions is definitely true?

1. There is no denying that Fabrizio is passionate about logic
2. Fabrizio has all the characteristics of a good chess player
3. All economists love to play chess
4. All economists are passionate about logic

41. What variables are related to each other by Okun law?

1. Unemployment rate and real salaries variations
2. Unemployment rate and real GDP variations
3. Inflation rate and nominal salaries variations
4. Unemployment rate and inflation rate

42. Read carefully

Our psychology faculties must have something wrong with them. Almost every month we hear news of people in emotional breakdown committing aggression or homicide, even though they are in the treatment of local social services. This failure in mental health care will only disappear when our psychology faculty curricula devote less time to theoretical knowledge and more time to professional training in the field.

Which of the following statements, if true, would weaken the arguments made in the passage the most?

1. All psychology students receive training in theoretical principles of psychology and psychiatry
2. Most of the people in emotional breakdown who committed assaults or homicides were treated by social workers working in local social services
3. Less than 50% of psychology curricula are devoted to the acquisition of theoretical knowledge
4. Psychologists study longer and harder than other mental health professionals

43. Teresa purchased a three-seat leather sofa for 1,250 euros.

The down payment constitutes 30% of the price: how much does Teresa need to pay in advance to confirm her purchase?

1. 125 euros
2. 375 euros
3. 250 euros
4. 200 euros

To answer the next question, choose answer choice:

- A. if statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not or vice versa
- B. if statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient
- C. if either statement BY ITSELF is sufficient to answer the question
- D. if statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem

44. Bill bought an armchair and a sofa at a sale.

Which item did he buy at the highest dollar discount?

Statement (1) He bought the armchair at a 30 percent discount.

Statement (2) He bought the sofa at a 40 percent discount.

1. A
2. B
3. C
4. D

Consider the following passage when answering the next question

Investments for children and families account for a mere 4.8% of the Italian social expenditure, resulting in only 13.5% of the 0-to-3-year-old children having access to municipal daycare or integrated services. It is also estimated that an additional 4% of the children do take advantage of private daycare centres which are not subsidized by the State. In the South and in the Islands the situation is more difficult: only 2.5% of the children have access to daycare in Calabria and only 2.8% in Campania. This means that little or very little effort is made to allow them to grow in an adequate and stimulating environment, except then to throw them into the world of new media and digital networks, but without protection. In other words, 85% of the underage children own a smartphone, 23% of teenagers spend between five and ten – or more – hours on the Internet, 8% are connected 24 hours a day. The effects of the increasing material deprivation are resulting in what Save the Children calls “educational deprivation”, that is to say the deprivation of formative and educational opportunities – even extra-curricular ones – which can enable every child to develop their potential.

45. The text underlines:

1. the importance of the elderly in childcare
2. the reduced need for daycare due to fewer births
3. the lack of childcare services in Italy
4. the homogenous distribution of childcare services

46. A friend of yours has forgotten the pin code number for his debit card. He remembers only that the first digit is 1, that the others are 2, 5, 6, 9 (but not in which order) and that the last digit is an even number.

How many attempts would he have to make, at most, to find his pin code?

1. 8
2. 12
3. 36
4. 24

47. “To drive it is necessary and sufficient to be always alert”.

Assuming that this premise is true, which of the following statements is true?

1. Giovanni is not always alert and does not drive
2. Angelo is always alert and does not drive
3. Emanuela is not always alert and drives
4. There is no relationship between driving and being always alert

48. 8 cars, 12 motorbikes and some motor tricycles take part in a reliability trial. A race inspector stamps the 62 wheels of all the vehicles.

He deduces that the total number of vehicles is:

1. 43
2. 22
3. 26
4. 35

49. Read carefully

The University of Paris has printed a brochure highlighting reasons why students should enroll there rather than at other universities in France. One of the reasons mentioned in the brochure is the relative easiness with which students coming out of that university find jobs within six months of graduation. Only 18% of students, six months after graduation, still have not found a job.

Which of the following statements, if true, would cast doubt on the validity of the reason for enrolling at the University of Paris?

1. French universities have an average unemployment rate for their students, six months after graduation, of 17.1%
2. The University of Paris offers, in addition to an excellent educational system, many cultural activities
3. The national unemployment rate for graduates is 17.5%
4. A new university has been opened in Paris that has similar characteristics to the University of Paris

To answer the next question, choose answer choice:

- A. if statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not or vice versa
- B. if statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient
- C. if either statement BY ITSELF is sufficient to answer the question
- D. if statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem

50. What is the value of the product yz ?

Statement (1) $vwxy > 0$

Statement (2) $wxyz = 0$

1. A
2. B
3. C
4. D