

# LUISS



V. 4/25

**TRAINING TEST**

## 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:

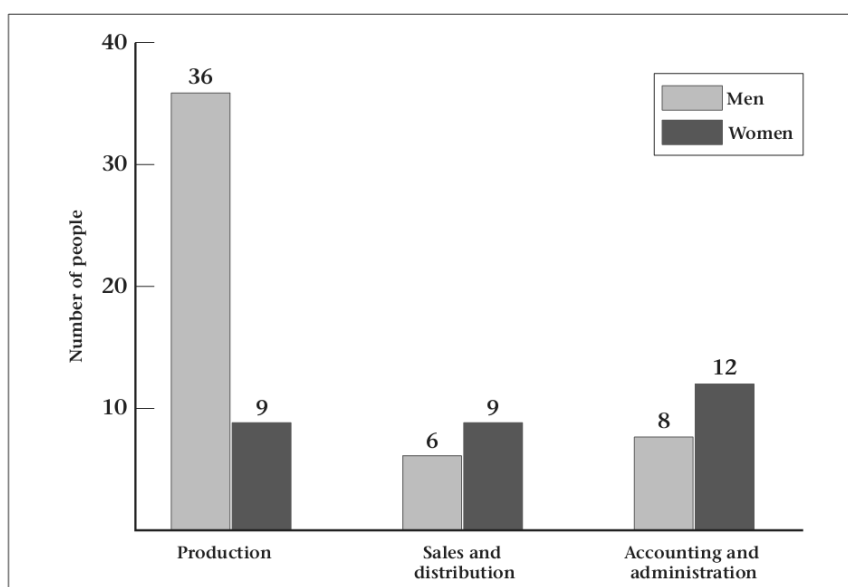
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**E1. From the reading of the passage it emerges that:**

- ☐ the small businesses in our country do not have problems of restructuring
  - ☐ international competition has an impact on the need for businesses to restructure more frequently than in the past
  - ☐ our products are competitive above all abroad
  - ☐ 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” (second statement). To give the correct answer you should therefore **click on the circle** next to this answer.

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



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

- ☐ 50%
  - ☐ 30%
  - ☐ 26.5%
  - ☐ 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% (fourth option). To give the correct answer you should therefore **click on the circle** next to this answer.

In example **E3**, the question regards two people, Massimo and Laura. First of all, a situation that Massimo or Laura believe to be true will be presented. This will be followed by some information (in *italic*), which you will need to study carefully. You need to establish what effect the new information may have, if indeed it has any effect at all, on the beliefs of Massimo or Laura.

Look at the example **E3**:

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**E3. Laura believes that when the lift arrives on her floor, it will beep twice.**

*Every time the lift opens on Laura's floor without beeping at all.*

**The new information in italic:**

- ☐ confirms the beliefs of Laura
  - ☐ is contrary to the beliefs of Laura
  - ☐ has no influence on the beliefs of Laura
- 

Laura's belief concerns the connection between the arrival of the lift on her floor and the sounding of two beeps. The information provided concerns, verified by Laura herself, in which the lift arrived on her floor without beeping at all. Therefore the correct answer is "is contrary to the beliefs of Laura" (second option). To give the correct answer you should therefore **click on the circle** next to this answer.

Inside the test, you will also be presented with some questions concerning **mathematics, logic** and **verbal reasoning**.

## TEST START

1. Laura plays the piano more often than Paola, but more rarely than Federica. Gloria plays the piano more rarely than Beatrice, who plays the piano more rarely than Paola. Who plays the piano more often among them?

1. Gloria
2. Beatrice
3. Paola
4. Federica\*

2. The Twoplus mobile drains 35% of its battery when kept on for 70 minutes and maintains this consumption until it reaches 50% of the battery. The other half of the battery is drained at twice the rate. How long does it take in total for the mobile to drain all the battery if it stays on all the time?

1. 2 hours and 30 minutes \*
2. 1 hour and 45 minutes
3. 3 hours
4. 4 hours and 30 minutes

3. Gemma believes that her English language teacher was born in London.

*When reading her English teacher's curriculum vitae, Gemma learnt that she lived for many years in Boston where she studied and had her first jobs, but that she later returned to London, her hometown.*

The new information in italics:

1. confirms the beliefs of Gemma \*
2. is contrary to the beliefs of Gemma
3. has no influence on the beliefs of Gemma

4. Complete the proportion with one of the pairs of terms shown below:

Cheerful : X = Y : Low

1. X = Gentle; Y = Unpleasant
2. X = Joyful; Y = Happy
3. X = Sad; Y = High\*
4. X = Mood; Y = Depressed

5. Which of the following straight lines passes through the origin O (0,0) and through P (5,1)?

1.  $y = 5x + 1$
2.  $y = 1/5x$  \*
3.  $y = 5x$
4.  $y = 1/5x + 1$

6. To deny that "all the tables in the restaurant are occupied" is to say that:

1. all tables in the restaurant are occupied
2. all tables in the restaurant are not occupied
3. no table in the restaurant is occupied
4. at least one table in the restaurant is not occupied\*

**Read the passage below and use the information to answer the next question**

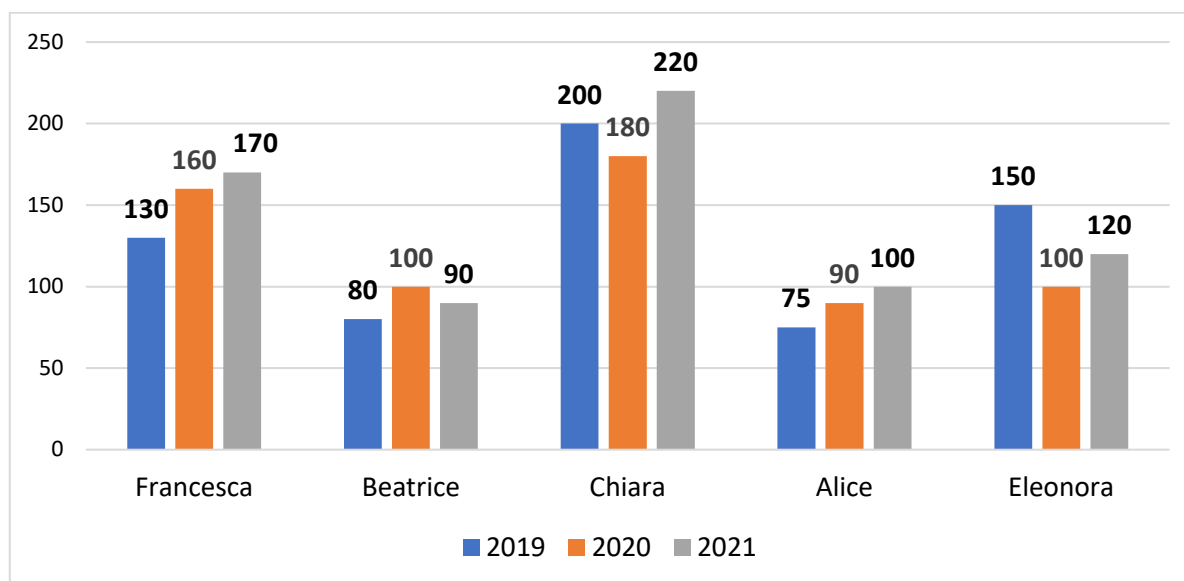
Since the mid-1960s, there are more males than females on Earth. In 2021, the former exceeded the latter by 44 million units. However, things are destined to change: in 2050 males and females will again be in equal numbers. In the coming decades, the world's population is set to age, due to decreasing fertility and thanks to the fact that we live longer than before. When a large portion of the world's population is young and therefore produces more children, there are also more males, because at birth the percentage of new-born males tends to be higher. Not so much because more males are conceived, but because the overall mortality of female foetuses during pregnancy is higher. Furthermore, in some highly patriarchal countries, this strictly biological difference is exacerbated by the practice of selective abortion and of infanticide of new-born females. Also because of this hateful phenomenon, in 2021 the global male to female ratio was 106 male births for every 100 female births. But the global population is ageing, and females live longer after birth in most countries. Therefore, there are more elderly women than men.

**7. According to the passage, what is it correct to say about the female birth rate?**

1. The global female birth rate is lowered by practices typical of more markedly patriarchal societies, such as infanticide \*
2. In 2021, the number of female births exceeded that of male births by a few units
3. Forecasts say that by 2050 the number of females will clearly exceed that of males
4. It has been observed that more males than females tend to be conceived in nature

**Consider also the graph below to answer the next question**

Number of pages read by 5 friends (data in thousands; years 2019, 2020 and 2021)



**8. Knowing that in 2022:**

- Francesca and Chiara increased the number of pages read by 25% compared to 2020;
- Beatrice and Alice reduced the number of pages read by 20% compared to the previous year;
- Eleonora has read 170,000 pages.

**How many pages in total did the five friends read in 2022?**

1. 697,000
2. 809,500
3. 747,000 \*
4. 845,000

**9. “All the bicycle shops in the city repair electric bicycles, but only a few rent scooters”.**

**If the above statement is true, then it is also true that:**

1. some bicycle shops in the city rent scooters and do not repair electric bicycles
2. at least one bicycle shop in the city repairs electric bicycles and does not rent scooters\*
3. all the bicycle shops in the city rent scooters
4. at least one bicycle shop in the city does not rent scooters and does not repair electric bicycles

**10. The station ticket office sells 10-ticket books at the price of 105 euro per book to travel by train over a period of 30 days. As a promotion, the ticket office provides a 20% discount when purchasing the third consecutive book. Within 90 consecutive days, Michele will have to go once a week from Bologna to Venice, with the relative return on the same day. How much will he spend on tickets taking advantage of the discount if he falls within the conditions of the promotion?**

1. €228
2. €232
3. €294\*
4. €300

**Read carefully**

The hypothalamus is a structure of the central nervous system located in the central area inside the two cerebral hemispheres; it is a part of the brain which is critical for homeostatic control and integrative regulation of the autonomic nervous system and of the neuroendocrine systems. The hypothalamus therefore performs a dual function: a control function of the autonomic nervous system and a control function of the endocrine system.

**11. According to the passage above, the statement “The hypothalamus of mammals is larger and more developed than that of other animals” is:**

1. true, since it is contained in the passage or it can be inferred from it
2. false, since it contradicts a statement that is contained in the passage or can be inferred from it
3. cannot be derived from the text, since there is not enough information in the passage to draw firm conclusions \*

**12. Which of the following equivalences is correct?**

1. 900 cl = 0.9 dal \*
2. 9 l = 0.09 kl
3. 90 hl = 9,000 dl
4. 90,000 ml = 9 hl

**13. Gemma believes that the football match cannot last longer than 90 minutes.**

***Gemma learnt from the sports journalist on television that the football match exceeded 90 minutes due to extra time that extended the match by 30 minutes.***

**The new information in italics:**

1. confirms the beliefs of Gemma
2. is contrary to the beliefs of Gemma\*
3. has no influence on the beliefs of Gemma

**Read the passage below and use the information to answer the next question M**

Cooking eggs is scientifically interesting. Why does the yolk of hard-boiled eggs no longer sits in the centre of the white like when the eggs are raw? Because of Archimedes' principle: a body immersed in a fluid is buoyed up by a force equal to the weight-force of the displaced volume of liquid. Therefore, as egg yolks (made up of 55% water, 27% fat, and 15% protein) are denser than egg whites (87% water, 11% protein), they float in them, and during cooking they are drawn upwards according to Archimedes' principle. If, on the other hand, a raw egg is broken in a container, the yolk does not float on the surface, nor does it sink, but remains more or less in the centre of the albumen. The explanation is in the structure of the egg. The yolk is wrapped in a film (vitelline membrane) and is joined to the inner membrane of the shell (which surrounds the albumen) by two filaments, the chalazas. These filaments act as safety belts, keeping the germinal disc in the centre of the egg, a small dot on the surface of the yolk from which the chick will hatch, so that it is always surrounded by the white, which will nourish the embryo during its development.

**14. According to the passage, what is it NOT correct to say about the egg?**

1. The yolk and the egg white have a different composition, indeed possessing a different percentage distribution of their protein content
2. The egg yolk can remain suspended in the egg white since it is as if it were floating on water, which in the albumen is 55% \*
3. The egg yolk is anchored by filaments and wrapped in a film, so as to allow the developing chick to always be surrounded by its main source of nourishment
4. Archimedes' principle is useful for understanding the result of boiling an egg

**Consider also the data below to answer the next question**

In the "Geo" universe, a diamond is worth 20 rubies, while a ruby is worth 60 emeralds.

**15. A merchant from the "Geo" universe has 1,800 emeralds which he wants to exchange for a diamond and have the change in rubies. How many rubies will he get from the exchange?**

1. 15
2. 150
3. 100
4. 10\*

**16. Lapo believes that his brother Marco is studying in France for his Master's degree.**

*Lapo received an e-mail from his brother Marco with many attached photos of the famous French university where he is taking classes for his Master's degree.*

**The new information in italics:**

1. confirms the beliefs of Lapo \*
2. is contrary to the beliefs of Lapo
3. has no influence on the beliefs of Lapo

**17. Which of the following proportions has the solution  $x = 3$ ?**

1.  $3 : 9 = 5 : x$
2.  $18 : x = 66 : 11$  \*
3.  $21 : 3 = 49 : x$
4.  $x : 40 = 9 : 90$

18. "Massimo takes his daughter to school fewer times a week than Carlo, who takes his daughter to school 4 times a week. In a week, Gabriele takes his daughter to school a total number of times equal to the sum of Massimo and Carlo's weekly ones. Vincenzo is the one who takes his daughter to school the fewest times a week, that is 2." If the above statements are true, which of the following is necessarily false?

1. Massimo takes his daughter to school fewer times a week than Gabriele
2. Carlo takes his daughter to school fewer times a week than Gabriele
3. Gabriele takes his daughter to school 7 times a week
4. Massimo takes his daughter to school once a week\*

19. In view of her imminent move, Laura will have to pack all the books of her encyclopaedia in boxes with a maximum capacity of 8 kg each. Considering that the encyclopaedia consists of 33 books,  $\frac{2}{3}$  of which weigh 1.5 kg each, while each of the remaining ones weighs 500 grams more than the others, how many boxes at least must Laura get to be able to pack the whole encyclopaedia?

1. 6
2. 9
3. 5
4. 7\*

**Read carefully**

Avocado is a fruit with many properties, but its main nutritional characteristic is its richness in fats, especially unsaturated and Omega-3. In fact, the most important element for the health of those who include avocado in their diet is the intake of linolenic fatty acid and of Omega-3, "good" fats capable of stimulating the production of good cholesterol (HDL) and of curbing the deposit of the bad one (LDL).

20. According to the passage above, the statement "Avocado is a fruit rich in good fats, which stimulate the production of HDL cholesterol" is:

1. true, since it is contained in the passage or it can be inferred from it \*
2. false, since it contradicts a statement that is contained in the passage or can be inferred from it
3. cannot be derived from the text, since there is not enough information in the passage to draw firm conclusions

21. There are 100 members in the Athlon gym. In March, the Athlon gym's spinning course attracts  $\frac{1}{4}$  of all the members of the same gym, each of whom always attends the course, taking 2 classes a week. Each participant spends 14 euro for each spinning class, of which  $\frac{1}{4}$  is used for renovating the premises. How much money from the spinning course of the first week of March goes towards renovating the premises?

1. €157
2. €320
3. €175\*
4. €230

22. Lapo believes that in his grandparents' country house there were 4 bedrooms and 3 bathrooms. *Lapo learnt from his parents that his grandparents' country house hosted up to 10 people in the summer.*

**The new information in italics:**

1. confirms the beliefs of Lapo
2. is contrary to the beliefs of Lapo
3. has no influence on the beliefs of Lapo\*

**Read the passage below and use the information to answer the next question M**

In the eastern part of the island of Rügen, in Germany, there is a tourist location that attracts many visitors, but has a very different history from that of many others: in fact, it hosts the so-called Colossus of Prora, a former summer camp built by the Nazis in the 1930s. The recent transformation of the building into a hotel and tourist apartments has raised criticisms and observations related to its past. It was conceived by the Nazis to accommodate up to 20,000 people during the mass summer holidays and to become the longest building in the world: a series of six-story buildings very similar to each other, attached to one another, which measured 4.5 kilometres in total. It was ordered by Adolf Hitler, who announced the start of construction in 1935, employing more than 9,000 men. The complex was to contain, among other things, swimming pools with artificial waves, two theatres and large restaurants every 500 metres, employing over 5,000 people. It was not just a holiday resort but was intended to be used by workers and to strengthen the trust in the Nazi party. In 1939, construction of the complex was halted and the building was never completed. Some local politicians said they were cautiously optimistic that the tourist development of the complex could help develop the local economy and encourage the creation of jobs and services for the local population.

**23. According to the passage, what is it correct to say about the Colossus of Prora?**

1. Upon its completion, in 1939, the Colossus of Prora was the longest building in the world, totalling 4.5 kilometres
2. The transformation of the Colossus of Prora into a luxury hotel was condemned by the entire German political class
3. The construction of the Colossus of Prora was part of the Nazi propaganda program, as it was intended to strengthen the trust of German workers in the Nazi party \*
4. The original design of the Colossus of Prora envisaged that the complex be exclusively residential, but when it was reconverted, theatres, shops and a swimming pool were added

**24. Which of the following equations is equivalent to the equation  $5x + 5y = x + y - 2$ ?**

1.  $2x = 0$
2.  $y = 1$
3.  $2x = 2y + 1$
4.  $2x + 2y + 1 = 0$  \*

**25. Rosa takes private Italian literature lessons every Monday, Thursday and Saturday. On one of the remaining days of the week she takes private physics lessons. Knowing that the day after each private Italian literature lesson Rosa does not take private lessons in any subject, when does she take private physics lessons?**

1. On Sundays
2. On Fridays
3. On Wednesdays \*
4. On Mondays

**26. Gemma believes that the "Brisée" pastry shop, where she ordered her birthday cake, specialises in chocolate desserts.**

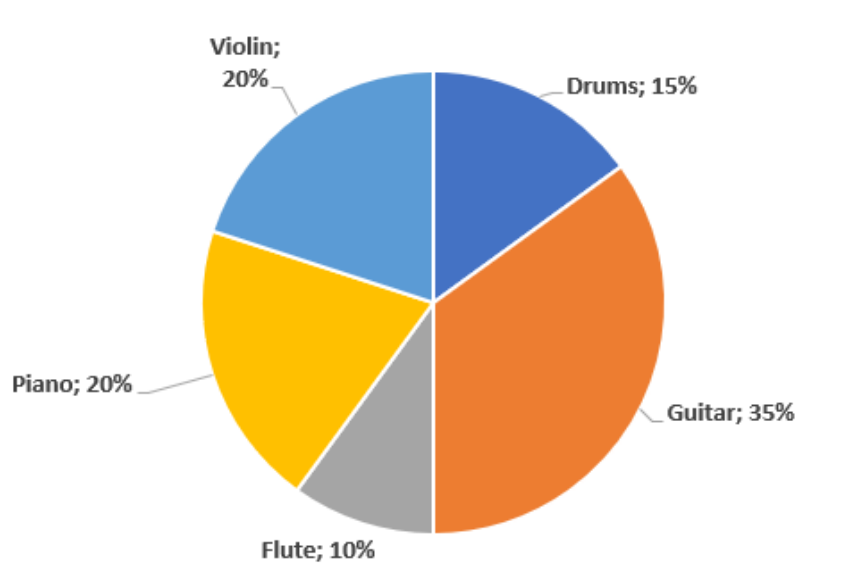
*Gemma learnt from the pastry chef of the "Brisée" pastry shop that usually for ceremonies and birthdays customers choose the pastry shop speciality, that is the chocolate St. Honoré cake.*

**The new information in italics:**

1. confirms the beliefs of Gemma \*
2. is contrary to the beliefs of Gemma
3. has no influence on the beliefs of Gemma

Consider also the graph below to answer the next question

Distribution of the musical instruments chosen by children in a music school (September 2022)



27. We know that:

- in September 2022, 70 children chose to study the guitar;
- at the end of 2022, the school decided that in 2023 the number of instruments would be reduced to 4, eliminating the one that had been the least chosen, and so those children had to choose a new instrument;
- the children who had to choose a new instrument picked either the drums or the piano in a ratio of 1:3 respectively.

Considering that all the other choices remained unchanged, how many students in total will study piano in 2023?

1. 40
2. 55 \*
3. 45
4. 80

28. Gemma believes that for Christmas Eve her mother will have classic gingerbread cookies for her. *On 23 December, Gemma saw her mother enter a shop specialising in Christmas cakes and sweets.*

The new information in italics:

1. confirms the beliefs of Gemma
2. is contrary to the beliefs of Gemma
3. has no influence on the beliefs of Gemma\*

29. In a 100-gram box of chestnut chocolates, 10% of the weight is made up of chestnuts. Taking into account that 50 grams of chestnuts are equivalent to 314 calories, how many calories does the quantity of chestnuts contained in a box of chocolates have?

1. 63
2. 62.8 \*
3. 58.8
4. 52.8

**Read carefully**

In "*Life of Galileo*" Bertolt Brecht does not want to make an "archaeological" reconstruction of the period and the figure of Galileo, but aims to pose - consistent with the function he attributed to theatre - a precise question: what are the duties of the scientist towards society? What are the aims of scientific research? Galileo's final speech is an analysis on which the reader can meditate: as long as men of science do not react to the exploitation of the powerful, as long as they consider themselves satisfied with the discovery itself, they will dig a deep trench between their work and humanity.

**30. According to the passage above, the statement "Bertolt Brecht in "*Life of Galileo*" questions the duties of the scientist and the goals of scientific research" is:**

1. true, since it is contained in the passage or it can be inferred from it \*
2. false, since it contradicts a statement that is contained in the passage or can be inferred from it
3. cannot be derived from the text, since there is not enough information in the passage to draw firm conclusions

**31. A retailer sells a number of wood stoves, pellet stoves and gas stoves, in a ratio of 3:2:1 respectively. The three types of stoves have the same price. Knowing that the retailer earns 85 euro from the sale of each pellet stove and that 6 pellet stoves are sold, how much does the retailer earn from the sale of all the wood stoves?**

1. €510
2. €660
3. €480
4. €765\*

**32. Which of the following scenarios makes the condition: "It is necessary to call the admin office to receive the certificate" false?**

1. Laura called the admin office and received the certificate
2. Chiara did not call the admin office and did not receive the certificate
3. Martina received the certificate and did not call the admin office\*
4. Roberta did not receive the certificate and called the admin office

**33. Which of the following straight lines is perpendicular to the straight line  $y = -2x + 1/3$ ?**

1.  $y = 2x + 1/3$
2.  $y = -2x - 3$
3.  $y = -1/2x + 1/3$
4.  $y = 1/2x + 3$ \*

**Read carefully**

According to scholars, the evolutionary process of adolescence involves the achievement of important psychological changes. First of all, the separation-individuation, i.e., the construction of a certain degree of independence from the real figures of the parents and from their mental representations; the mentalisation of the bodily self allows instead to elaborate a new image of oneself starting from bodily transformations; the social birth refers to the adoption of a socially recognised role in a wider social circle than that of the family alone; and finally subjectification, which allows the establishment of a personal psychic space.

**34. According to the passage above, the statement "During adolescence, estrogen and testosterone levels increase, which can affect the emotional balance and contribute to the onset of unpleasant psychological states such as irritability, sadness or anxiety" is:**

1. true, since it is contained in the passage or it can be inferred from it
2. false, since it contradicts a statement that is contained in the passage or can be inferred from it
3. cannot be derived from the text, since there is not enough information in the passage to draw firm conclusions \*

**Read the passage below and use the information to answer the next question M**

Even in food, small is beautiful. And it sells well too. Mini ice creams, baby-sized biscuits and croissants, single-serving tomato sauce and mignon pasta are just some of the small-format products that have appeared on supermarket shelves, obtaining a good response from Italian consumers. In the world of so-called "indulgence" products, the decision to offer smaller formats was the key to conquering an audience of adults with a sweet tooth but attentive to their figure. And it turned out to be a winning move. Nuii mini ice creams on sticks not only conquered 15% of the market in two years, but they also made this segment grow by 13%. Today, in large-scale retail trade, one customer out of three puts mini ice creams in the shopping cart. It is mostly families with at least three members, in which the person in charge of purchasing is between 34 and 44 years of age and belongs to a high socio-economic class. In May 2022, sales of mini ice creams were worth €86.2 million. However, the analysis by product type shows different trends: mini sticks grew in terms of household penetration but average purchase has fallen, while ice cream cones and ice cream sandwiches have lost consumers but have seen an increase in average spending.

**35. According to the passage, what is it correct to say?**

1. The ice cream sector grew by 13% thanks to low-calorie mini ice cream sticks
2. The term "indulgence" refers to the mini-sized version of successful products
3. The mini ice cream market segment has also expanded thanks to the launch of Nuii mini ice creams\*
4. Mini ice creams on sticks are mainly consumed by the population between 34 and 44 years old

**36. Lapo believes that this year the school will be closed for the holidays from 10 June to 10 September. Lapo learnt from the school headmaster that this year the holidays will last three months.**

**The new information in italics:**

1. confirms the beliefs of Lapo
2. is contrary to the beliefs of Lapo
3. has no influence on the beliefs of Lapo\*

**Consider also the table below to answer the next question**

Number of interventions carried out by the electrical company "Da.Be.", divided by type and year

|                                  | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------------------------|------|------|------|------|------|
| <i>Installation</i>              | 46   | 54   | 12   | 34   | 76   |
| <i>Expansion</i>                 | 34   | 21   | 56   | 17   | 37   |
| <i>Transformation</i>            | 45   | 24   | 18   | 55   | 20   |
| <i>Ordinary maintenance</i>      | 48   | 67   | 19   | 70   | 54   |
| <i>Extraordinary maintenance</i> | 90   | 30   | 15   | 55   | 54   |

**37. Based on the data shown in the table, which of the following statements is correct?**

1. In 2020 the extraordinary maintenance and installation interventions were in a ratio of 5:2 respectively
2. Extraordinary maintenance interventions in 2020 increased by 50% compared to those of 2018
3. In total, more interventions were carried out in 2018 compared to the 2017 total
4. The transformation interventions in 2019 were 1/3 compared to the ordinary maintenance ones in 2021 \*

38. "If and only if you are registered in the national register, then you can practice the profession".

If the above statement is true, which of the following is false?

1. If you cannot practice the profession, then you are not registered in the national register
2. If you can practice the profession, then you are registered in the national register
3. If you are not registered in the national register, then you cannot practice the profession
4. If you are registered in the national register, then you cannot practice the profession \*

39. A tourist rents a petrol car which consumes one litre of fuel for every 10 kilometres to cover a distance of 600 kilometres during his trip. Knowing that the cost of petrol is 1.9 euro per litre, how much does the tourist spend on fuel to cover the entire journey in the rented car?

1. €114\*
2. €141
3. €250
4. €187

40. Lapo believes that the Mediterranean diet does not include the consumption of animal proteins.

*Lapo learnt from his dietician that in the Mediterranean diet animal proteins are included 2 times a week.*

The new information in italics:

1. confirms the beliefs of Lapo
2. is contrary to the beliefs of Lapo\*
3. has no influence on the beliefs of Lapo

41. The area of a rectangle is 600 m<sup>2</sup> and its shorter side measures 20 m. What is the area of a square whose side is 1/3 of the longer side of the rectangle?

1. 200 m<sup>2</sup>
2. 100 m<sup>2</sup> \*
3. 300 m<sup>2</sup>
4. 500 m<sup>2</sup>

**Read carefully**

The gene revolution has entered its most lively and promising phase for human health. Thanks to the development of genetic therapy, it is possible to modify at the origin the invisible alteration of the DNA which leads to a disease and to predict in advance the onset of a lengthy series of diseases with tests that identify the genetic characteristics that increase the risk of becoming ill.

42. According to the passage above, the statement "Thanks to genetic therapy, it is possible to detect DNA alteration, but not to modify it" is:

1. true, since it is contained in the passage or it can be inferred from it
2. false, since it contradicts a statement that is contained in the passage or can be inferred from it \*
3. cannot be derived from the text, since there is not enough information in the passage to draw firm conclusions

43. Gemma believes that the "Humble Fish" restaurant has the highest prices of all the other seafood restaurants in the city.

*Gemma was at the "Humble Fish" restaurant on Saturday evening and saw that the prices had increased by 10% compared to last month*

The new information in italics:

1. confirms the beliefs of Gemma
2. is contrary to the beliefs of Gemma
3. has no influence on the beliefs of Gemma\*

**Read the passage below and use the information to answer the next question D**

Research over the last 15 years indicates that puzzling over a problem or desperately searching for a flash of genius doesn't pay off: it seems that creative revelations and moments of epiphany are more likely to occur while we are performing routine activities that do not require great effort, for which we go on autopilot. This allows our minds to wander, that is to engage in **spontaneous cognition** or stream-of-consciousness, a state experts believe aids in retrieving memories and generating new ideas. The key element, according to the most recent research, is a pattern of brain activity that occurs both when the individual reaches a state of mental relaxation such as not to try to be productive or to achieve any goal or when performing habitual activities that do not require a lot of attention, but which must last long enough to present an opportunity to access a different way of thinking. Indeed, by dedicating ourselves to habitual activities that we do regularly, we do not feel guilty if we let our minds wander, and it is then that our thoughts can reach new shores.

**44. According to the passage, what is it correct to say about “spontaneous cognition”?**

1. They are sudden flashes of genius that occur when the daily routine is unexpectedly interrupted
2. It is a state of mental relaxation that can be achieved during habitual activities that require little attention and which allows experiencing moments of epiphany \*
3. It is a technique developed in the field of psychology that allows recovering memories lost as a result of traumatic experiences
4. The shorter the routine activity performed, the easier it will be to benefit from spontaneous cognition

**45. On Monday, a machine bottles 10 bottles. The next day, thanks to the intervention of an engineer, the machine is upgraded to be able to bottle 3 more bottles every day compared with the previous day, starting from the day itself. How many bottles in all will the machine be able to bottle from Monday to Friday thanks to the engineer’s intervention?**

1. 80\*
2. 62
3. 58
4. 85

**46. Which of the following terms is not similar to the others?**

1. Spade
2. Rake
3. Shovel
4. Handle\*

**47. The area of a right-angled triangle is 40 cm<sup>2</sup>. Which of the following pairs indicates the correct size of the legs of this triangle?**

1. 40 cm and 2 cm \*
2. 20 cm and 2 cm
3. 25 cm and 4 cm
4. 10 cm and 4 cm

**48. “All musicians are passionate. Some musicians are creative”.**

**If the previous statements are true, then it will be also true that:**

1. some musicians are not passionate
2. some creative people are passionate\*
3. if a musician is passionate, then he/she is not creative
4. if a musician is creative, then he/she is not passionate

Consider also the table below to answer the next question

Quantity of cotton (in quintals) supplied by some locations over four years

|          | YEAR |      |      |      |
|----------|------|------|------|------|
| LOCATION | 2020 | 2021 | 2022 | 2023 |
| B        | 6.5  | 6.8  | 8.8  | 7.8  |
| V        | 6.0  | 5.7  | 6.2  | 8.1  |
| L        | 6.2  | 6.9  | 8.7  | 8.2  |
| S        | 6.2  | 5.2  | 5.5  | 5.8  |
| T        | 5.5  | 6.0  | 5.0  | 6.2  |

49. According to data in the table, which was the most productive location both in 2021 and 2023?

1. L\*
2. B
3. V
4. T

50. Lapo believes that by filling up the tank of his new car, he will be able to go to the seaside from his house and then come back, since the seaside is only 40 km away from his house.

*Lapo learnt from his car dealer that it can travel at most 60 km on a full tank of petrol.*

The new information in italics:

1. confirms the beliefs of Lapo
2. is contrary to the beliefs of Lapo\*
3. has no influence on the beliefs of Lapo