

International Youth Olympiad – 2018/2019

**DEMO VERSION OF OLYMPIAD TASKS IN PSYCHOLOGY
10TH GRADE**

to be completed within 120 minutes

This assignment includes four parts.

Part 1 - a question on psychology requiring a detailed answer. The maximum score for this task is 20 points.

Part 2 – a task to test your logical thinking. The maximum score for this task is 20 points.

Part 3 - you will need to analyze a case and offer your own solutions. The maximum score for this task is 30 points.

Part 4 - a task in biology. The maximum score for this task is 30 points.

Part 1.

Answer the question and briefly explain your answer.

What, in your opinion, is the difference between the process of persuasion and the process of suggestion?

Answer:

Persuasion is a process defined by grounded and logical reasoning, aimed at changing or forming new views and attitudes in a person. On the other hand, suggestion implies that one person intentionally tries to guide another person's view and behaviour without giving logical reasons and beyond the latter's will and consciousness. Persuasion is, above all, a cognitive, rational process, while suggestion is primarily based on one's emotions.

Part 2.

2.1. One of the words in each line below is superfluous, as it does not fit with the other words. Please choose one correct answer for each question.

Write your answers in the table below “Key to tasks in Part 2.1.” (10 points).

1. a) tulip b) lily c) bean d) chamomile e) violet;
2. a) river b) lake c) sea d) bridge e) swamp;
3. a) airplane b) nail c) bee d) fan e) helicopter;
4. a) Paris b) Toulouse c) Moscow d) Lyon e) Marseille;
5. a) dog rose b) lilac c) poplar d) jasmine e) hawthorn;

6. a) grandfather b) teacher c) mom d) brother e) dad;
7. a) dust b) hoarfrost c) rain d) dew e) snow;
8. a) sweater b) jacket c) shirt d) jeans e) t-shirt;
9. a) Jupiter b) Venus c) Moon d) Pluto e) Uranium;
10. a) hockey b) tennis c) football d) volleyball e) handball.

Key to tasks in Part 2.1.:

Question	1	2	3	4	5	6	7	8	9	10
Answer	C	D	B	C	C	B	A	D	C	B

2.2. Logical problems:

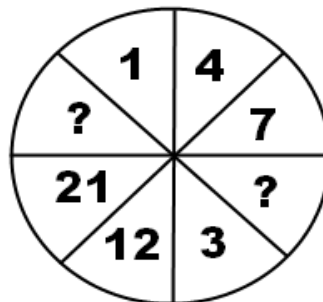
2.2.1. Put in the correct sequence (2 points):

17; 13; 11; ?; 5; 3; 2

Task key:

Answer: 7. All of the above numbers are simple, arranged in descending order.

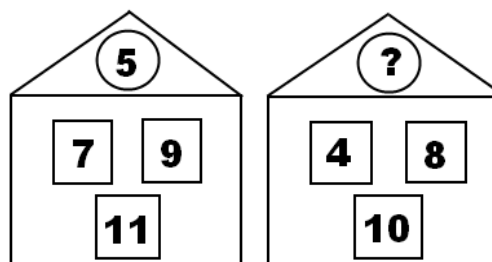
2.2.2. Insert the missing numbers (4 points):



Task key:

Answer: 10 and 30. Each number at the top between the question marks is produced by adding 3; and the opposite number - by multiplying by 3.

2.2.3. Insert the missing number (4 points):



Task key:

Answer: 2. The sums of all numbers along the horizontal and vertical lines are equal: $7 + 9 = 11 + 5$. Since $4 + 8 = 12$, to get a 12 along the vertical line, we need to add 2 and 10.

Part 3.

Analyze the case below in terms of psychological mechanisms.

Imagine that you see an ad with the following text.

Subscription:

1. Online version of the *Science* journal - 690 roubles. Annual subscription + online access to issues published in previous years.
2. Annual subscription to the printed version of the journal – 1,350 roubles.
3. Annual subscription to the printed version + online version + online access to issues published in previous years – 1,350 roubles.

According to the results of an experiment conducted by D. Ariely, only 16% of respondents chose the first option, while 84% preferred the third option. Moreover, no one selected the second option. However, from a rational and financial point of view, the first option is clearly more preferable.

Why do you think only few respondents chose the third option? What role is played by option 2 in this case? What pattern of human thinking is manifested in this situation?

Task key:

The intermediate option (2) disrupts the logical reasoning of respondents, making them more prone to irrational choices. We can, therefore, predict, with a high level of probability, how a person will act after encountering such “additional” information. In such cases, it serves as bait, making the respondent more inclined to choose the answer, which actually favours to the seller.

In such situations, the human mind manifests relativity when defining the value of something. We tend not to assess the absolute/independent value of goods, but rather make judgements in relation to other goods available based on a comparison.

Part 4.

Answer the question.

We often hear that constant exposure to stressful situations can be quite harmful to the human body. Try to act as an “advocate” of stress and explain in what cases stress can be beneficial.

Task key:

While working on this case, you must rely on your knowledge of biology. An excellent answer should demonstrate your clear understanding that stress consists of several stages, one of which stimulates all functions of the body.

Many people tend to talk about stress in negative terms. In other words, under constant stress, the human body begins to lose its adaptive abilities, i.e., it begins to lose strength, agility and energy. However, moderate exposure to mid-level stressful situations in the context of a generally normal lifestyle can actually have a beneficial effect on all body functions. After initial discomfort caused by stress, the body mobilizes its internal reserves, which is usually expressed in increased endurance, more rational allocation of resources, etc. Therefore, if you do not bring yourself to the point where the body begins to lose its adaptive functions, stress can be an excellent stimulant and an element of a healthy lifestyle. One example of moderate stress is physical training.

International Youth Olympiad – 2018/2019

**DEMO VERSION OF OLYMPIAD TASKS IN PSYCHOLOGY
11TH GRADE**

to be completed within 120 minutes

This assignment includes four parts.

Part 1 - a question on psychology requiring a detailed answer. The maximum score for this task is 20 points.

Part 2 – tasks to test your logical thinking. The maximum score for these tasks is 20 points.

Part 3 - you will need to analyze a case and offer your own solutions. The maximum score for this task is 30 points.

Part 4 - a task in biology. The maximum score for this task is 30 points.

Part 1.

Answer the question below and briefly explain your answer.

What is the difference between the character and temperament of an individual?

Task key:

Temperament manifests itself as the combination of a person's psychodynamic properties, such as the intensity, speed and pace of mental reaction, and emotional tone. On the other hand, character is an individual combination of a person's substantial properties, manifested in his/her behaviour and attitude to reality.

Furthermore, temperament is innate, whereas character is formed on the basis of one's temperament and may change during a person's life.

Part 2.

2.1. One of the words in each line below is superfluous, as it does not fit with the other words. Please choose one correct answer for each question.

Write your answers in the table below “Key to tasks in Part 2.1.”:

1. a) sofa b) wardrobe c) computer d) bed e) armchair;
2. a) wormwood b) rose c) tulip, d) orchid e) chamomile;
3. a) cat b) parrot c) hamster d) dog e) bear;
4. a) Riga b) Moscow c) Minsk d) Rio de Janeiro e) Berlin;
5. a) plate b) cup c) saucer d) bucket e) bowl;
6. a) bullfinch b) rook c) swallow d) skylark e) hummingbird;
7. a) Poland b) Romania c) Greece d) Canada e) Spain;

8. a) adjective b) noun c) verb d) adverb e) suffix;
 9. a) biology b) mathematics c) literature d) chemistry e) physics;
 10. a) artist b) doctor c) dancer d) musician e) artist.

Key to tasks in Part 2.1.:

Question	1	2	3	4	5	6	7	8	9	10
Answer	C	A	B	D	D	A	D	E	C	B

2.2. Logical problems:

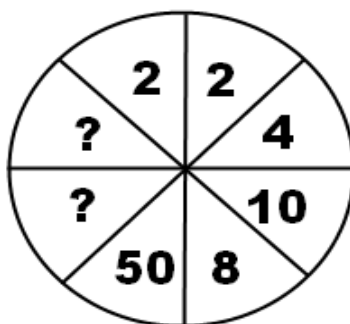
2.2.1. Put in the correct sequence (2 points):

81; 49; 25; ?; 1

Task key:

Answer: 9. All of the above numbers are simple and arranged in a descending order.

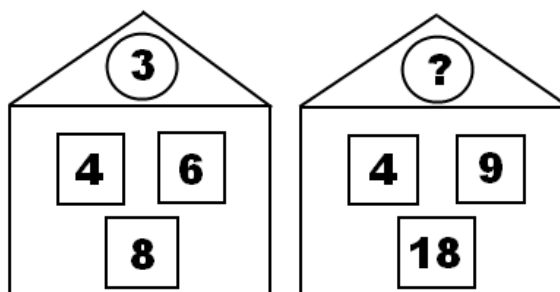
2.2.2. Insert the missing numbers (4 points):



Task key:

Answer: 16 and 250. Two consistent patterns link every second number in the figure. In the first pattern, the numbers are multiplied by 2; in the second sequence – by 5.

2.2.3. Insert the missing number (4 points):



Task key:

Answer: 2. The products of numbers along the horizontal and vertical lines are equal: $4 * 6 = 3 * 8$. Hence, since $4 * 9 = 36$, 18 must be multiplied by 2.

Part 3.

Analyze the stated case in terms of psychological mechanisms.

Russian psychologists conducted an experiment, where a person was placed in a dark room. If he or she had been warned in advance that during the experiment there would be just-noticeable stimuli, he or she would become aware of them, and if he or she had not been warned, such stimuli would tend to go unnoticed.

What do you think was actually studied under this experiment? What conclusions can we draw from it?

Task key:

This experiment investigates the psychological factors underlying an analyzer's sensitivity. The results indicate that the sensitivity of an analyzer depends not only on sensory factors, such as illumination, interference, physiological state or personal abilities, but also on whether or not a respondent is focused on his/her perception of a particular signal or ready to perceive it. When given instructions to "guess", rather than provide the right answer, respondents tend to be less susceptible to mental blocks or fear of making an error.

Here, we can observe a clear interconnection between the effectiveness of perception and goal-setting (instructions in this case). In other words, our perception is also influenced by psychological factors, such as fear of failure and setting clear goals for a given task.

Part 4.

Answer the question below.

As a result of a rare genetic mutation, a boy is born without a staple and anvil in his middle ear. Explain what type of hearing impairments he would have and why. Which cognitive function would suffer the most?

Task key:

The main function of stapes and anvils is the amplification of sound oscillations in the air transmitted to the inner ear. It is logical to assume that a newborn would either not be able to hear at all, or would have very weak hearing, because the sound vibrations reaching the cochlea would be too weak to activate sensitive cells. Therefore, oral speech would be the cognitive function most affected by this type of impairment, since its development is largely dependent on one's hearing.