

מבחן מאיה  
שאלות לדוגמה - אנגלית

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## Critical Reading and Inference Questions

1. The Minister for the Environment claims that the Fruchter Industries factory caused even more environmental pollution this year than last year. As evidence of this, she notes that this year there was a significantly higher number of reports by factory workers about environmental pollution resulting from factory operations than there was last year.

Which of the following pieces of information shows that the evidence brought by the Minister **cannot**, on its own, prove her claim?

- (1) Last year, the factory's managers conducted a surprise inspection to identify sources of pollution in the factory.
  - (2) During a visit to the factory this year, a representative of the Ministry for the Environment gave a lecture about the importance of reporting incidents of environmental pollution.
  - (3) Many of the workers who reported environmental pollution this year had been actively involved in the operations causing this pollution.
  - (4) Last year, the factory's management invested extensive resources in preventing environmental pollution.
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2. Dr. Segal: Bees estimate the distance they fly according to how much effort they need to make during the flight.

Dr. Avrahami: Bees estimate the distance they fly according to the number of objects they see during the flight.

Which of the following findings weakens Dr. Segal's statement without strengthening Dr. Avrahami's statement?

- (1) It is difficult for bees to estimate distances greater than five kilometers.
  - (2) Blind bees estimate distances less accurately than non-blind bees do.
  - (3) It is difficult for bees to estimate distances when it is foggy.
  - (4) Bees flying against a strong wind and bees flying with no wind are equally accurate in estimating the distance they are flying.
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3. The parasite that causes sleeping sickness is transmitted from one person to another by the tsetse fly, an insect which is quite common in tropical Africa. When a tsetse fly bites a person who has sleeping sickness, the parasite passes into the fly's body and multiplies there. If one fly bites several people who have the sickness and picks up parasites from them, genetic information can be transferred among the parasites during the time they are in the fly's body. This promotes greater genetic variation in the parasites and may make them more resistant to medication.

According to the paragraph, how is it possible to explain the fact that in regions where sleeping sickness is very common, the parasite's resistance to medication increases faster than in other regions?

- (1) In these regions, a smaller percentage of tsetse flies are carriers of the parasite.
  - (2) In these regions, there is a greater number of tsetse flies.
  - (3) In these regions, there is a greater probability that genetic information will be transferred from the tsetse fly's body to the parasite.
  - (4) In these regions, there is a greater probability of a tsetse fly biting several people who have sleeping sickness.
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4. For which of the following questions will a **negative** answer make it possible to determine with absolute certainty that every student who **does not** like playing soccer has a birthday in the summer?

- (1) Are there any students who like playing soccer and were not born in the summer?
  - (2) Are there any students who were born in the summer and do not like playing soccer?
  - (3) Are there any students who were not born in the summer and like playing soccer?
  - (4) Are there any students who do not like playing soccer and were not born in the summer?
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5. The entries in The New Encyclopedia of People in History are arranged as follows:
- The encyclopedia has three sections based on periods in history: the Ancient World, the Middle Ages, and the Modern Period.  
The order of the sections in the encyclopedia is the opposite of their chronological order.
  - The first and second sections are each divided into two parts: the first part deals only with kings and queens, and the second part deals with all the other people from that period. The third section is also divided into these two parts, but the order in which they appear is the opposite of the order in the first and second sections.

Which of the following combinations is possible?

- The entry about Roland, an artist in the Middle Ages, appears before the entry about King John, who ruled during the Modern Period.
  - The entry about Lucinda, a nun in the Middle Ages, appears before the entry about Dietrich, an inventor in the Ancient World.
  - The entry about Queen Helga, who ruled in the Ancient World, appears before the entry about Charles, her personal priest.
  - The entry about Mark, a merchant in the Middle Ages, appears before the entry about Zelda, the queen who ruled in his lifetime.
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6. Revolutionaries have always had to consider which methods they should use to carry out their revolution. Specifically, should they use the mechanisms of the existing order – the one they are seeking to overthrow or to change – as a means of bringing about a new order? This issue was also of concern to leaders of the feminist revolution, among them Audre Lorde, who coined the saying: "The master's tools will never dismantle the master's house."

In her saying, Audre Lorde was comparing -

- the use of the master's tools to the destruction of the existing order
  - the master to the leaders of the feminist revolution
  - the master's tools to the methods that the feminist revolution should adopt
  - the master's house to the existing order that should be changed
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## Reading Comprehension

Read the text below carefully, and answer the questions that follow.

- (1) Throughout the course of Earth's history, several mass extinction events have occurred in which a significant percentage of all animals and plants disappeared. The commonly accepted theory in the scientific community was that these events were gradual, occurring over an extended period of time, and were caused by climatic changes and biological factors. However,
- (5) in 1980 a radical change took place: geologist Walter Alvarez proposed that the extinction of the dinosaurs 65 million years ago, during what is known as the K/T period, was a rapid event caused by an asteroid hitting Earth. Alvarez based his theory on the discovery of an iridium layer on Earth's surface that had sunk into the layer of dust covering Earth at that period. Iridium is a metal that is rare on Earth but common in space. The discovery of the Chicxulub
- (10) Crater on the Caribbean seabed further reinforced this theory, because it is hypothesized that this crater was formed by the impact of a body originating in outer space. Alvarez' theory was eagerly accepted by the scientific community, and many researchers were quick to conclude that most mass extinction events were caused by the devastating impact of asteroids. However, in recent years, new evidence has accumulated showing that during other mass extinction events,
- (15) the circumstances of the extinction differed from those in the K/T period.

- Some of this evidence was discovered using a new method developed by geologists which is based on an analysis of the amounts of carbon found in rocks. All plants live on carbon of different types which they absorb from the air. Plants absorb greater amounts of carbon-12 than of carbon-13 and therefore, during periods when vegetation is flourishing on Earth, the levels of
- (20) carbon-12 in the atmosphere will be lower than the levels of carbon-13 in the atmosphere. Since the carbon in the atmosphere is also trapped in rocks, scientists are able to determine the ratio between the amounts of the different types of carbon in the atmosphere during a certain period by measuring the ratio between the amounts of the different types of carbon found in the rocks formed during this period. Examination of rocks from the K/T period showed that a
- (25) dramatic and rapid change in the ratio between the types of carbon in the atmosphere did indeed occur then. However, examination of rocks from other periods of extinction showed that the change in levels of carbon was gradual and took place over an extended period of time.

- Additional findings also indicate that all periods of extinction share common features, with the exception of K/T. Researchers discovered that during these periods, the oceans on Earth's
- (30) surface reverted to a state of anoxia, in which the water contained a very low level of oxygen, a feature of the oceans before the formation of life. In addition, it was discovered that rocks from these periods contain many traces of sulfur bacteria, which are known to proliferate in a low-oxygen marine environment. As part of their metabolic process, these bacteria produce hydrogen sulfide gas, which is highly toxic for most other forms of life.

- (35) The current theory is that the common factor in most extinction events is extensive, world-wide volcanic eruptions. The huge quantity of gases, such as CO<sub>2</sub> and methane, that were emitted into the atmosphere during these eruptions led to global warming. The increased temperature of the oceans caused a gradual decrease in oxygen levels in the water and as a result, the population of sulfur bacteria in the water proliferated. The large quantities of gas

- (40) emitted by the bacteria bubbled up to the surface of the water, spread into the atmosphere and poisoned the animals and plants. The theory also holds that hydrogen sulfide accelerates the breakdown of the ozone gas that protects against the sun's ultra-violet radiation. As the hydrogen sulfide continued to spread, the ozone layer in the atmosphere became increasingly depleted, and the harmful radiation killed off many of the animal and plant species that had survived the poisoning. Thus it seems that the chief enemy of life on Earth is not an "external enemy" after all, but rather the ecological system of Earth itself.
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## Questions

1. According to the first paragraph, which of the following causes of mass extinction is the **least** appropriate explanation for the theory that was commonly accepted until 1980?
- (1) A slow, world-wide decline in precipitation
  - (2) A depletion of food and a gradual development of famine
  - (3) A rapid spread of a deadly plague throughout the world
  - (4) An extended period of global cooling
- 
2. Which discovery would **not** have lessened the contribution that the discovery of the iridium layer made to reinforcing Alvarez' hypothesis?
- (1) The discovery that iridium is actually as common on Earth as it is in space.
  - (2) The discovery that the iridium layer that was found was actually from a later period than the K/T period.
  - (3) The discovery that the iridium layer from the K/T period is not the only iridium layer in the ground.
  - (4) The discovery that the iridium layer that was found is actually from a much earlier period than the K/T period.
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3. According to the second paragraph, during periods when vegetation is flourishing on Earth -
- (1) the levels of carbon-12 and carbon-13 in the atmosphere are higher than during other periods
  - (2) the level of carbon-12 in the atmosphere is similar to the level of carbon-13
  - (3) the level of carbon-12 in the atmosphere is lower than the level of carbon-13
  - (4) the level of carbon-12 in the atmosphere is higher than the level of carbon-13
- 
4. Which of the following questions is **not** answered in the third paragraph?
- (1) What are the features of a state of anoxia?
  - (2) How does hydrogen sulfide affect most forms of life?
  - (3) What environment encourages the development of sulfur bacteria?
  - (4) What caused the low level of oxygen in the oceans during the periods of extinction?
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5. The second paragraph presents \_\_\_\_\_ between \_\_\_\_\_, and the third paragraph presents \_\_\_\_\_.
- (1) a difference / the extinction during the K/T period and extinction during other periods / similarities between the other periods
  - (2) evidence of the similarity / all the periods of extinction, with the exception of K/T / similarities between all the periods of extinction, including K/T
  - (3) differences / all the periods of extinction / similarities between all the periods of extinction
  - (4) evidence of the similarity / all the periods of extinction, with the exception of K/T / differences between all the periods of extinction, with the exception of K/T
- 
6. According to the last paragraph, which of the following is an outcome of the multiplication of sulfur bacteria?
- (1) CO<sub>2</sub> and methane were emitted into the atmosphere.
  - (2) The temperature of the oceans increased.
  - (3) The oxygen level in the water decreased.
  - (4) Animals and plants were poisoned.
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## Table Comprehension

Study the table below, then answer the four questions that follow.

A study examined the ability of students and their teachers to estimate the students' grades in two subjects: history and English. The table gives information for six students who participated in the study, three of whom live in Tiberias, and three of whom live in Afula. For each of the two subjects, there are three columns. The first column shows the student's estimate of the grade she expects to get, the second column shows the teacher's estimate of the grade the student will get, and the third column shows the student's actual grade. The deviation of the estimate from the actual grade is shown in parentheses next to the estimated grade.

Example: Osnat, who lives in Tiberias, estimated that her grade in history would be 72. Her actual grade in history was 80, and therefore the deviation of her estimate from this grade was (-8).

		History			English		
		Student's estimate	Teacher's estimate	Actual grade	Student's estimate	Teacher's estimate	Actual grade
Tiberias	<b>Osnat</b>	(-8) 72	(+11) 91	80	(+23) 96	(+9) 82	73
	<b>Bat-El</b>	(+5) 80	(+10) 85	75	(+2) 83	(+9) 90	81
	<b>Jenny</b>	(+8) 91	(+7) 90	83	(-5) 82	(-8) 79	87
Afula	<b>Dana</b>	(-35) 63	(-2) 96	98	(-32) 50	(-9) 73	82
	<b>Hadas</b>	(-23) 56	(+8) 87	79	(+20) 88	(0) 68	68
	<b>Vered</b>	(-3) 65	(+10) 78	68	(+12) 71	(-2) 57	59

**Note:** In answering each question, disregard the information appearing in the other questions.



## Questions

1. Which of the following statements is true about the average of the actual grades in history of the three students from **Afula**?

- (1) It is less than the average of the three students' estimates for their grade in history.
  - (2) It is less than the average of the teachers' estimates for the three students' grades in history.
  - (3) It is less than the average of the three students' actual grades in English.
  - (4) It is less than the average of the actual grades in history of the three students from Tiberias.
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2. When the teachers' estimates of their students' grades were compared it was found that:

- (a) the history teachers' estimates were accurate \_\_\_\_\_ times than the English teachers' estimates were.
- (b) the average of the deviations in the history teachers' estimates (deviations taken in absolute value) was \_\_\_\_\_ than that of the deviations in the English teachers' estimates.

- (1) more ; smaller
  - (2) more ; greater
  - (3) fewer ; smaller
  - (4) fewer ; greater
- 

3. For which student is the sum of the absolute values of the deviations for her two estimates the **smallest**?

- (1) Bat-El
  - (2) Jenny
  - (3) Hadas
  - (4) Vered
- 

4. Suppose that the information in the table shows only the median of the range of estimates, and the width of the range is 5 points in each direction (for example, the range of Bat-El's estimate for her actual grade in English is from 78 to 88, including 78 and including 88).

How many students actually got a grade in **history** that was in their range of their estimate?

- (1) 1
  - (2) 2
  - (3) 3
  - (4) 4
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# מבחן מאיה

## מפתח התשובות לשאלות לדוגמה - אנגלית

תשובה	מספר שאלה	סוג שאלות
2	1	שאלות הבנה והסקה
4	2	
4	3	
4	4	
2	5	
4	6	
3	1	שאלות על קטע קריאה
3	2	
3	3	
4	4	
1	5	
4	6	
2	1	שאלות הסקה מתרשים
4	2	
1	3	
2	4	