

TPO 18

READING

Paragraph 1

1. Paragraph 1 supports which of the following ideas about England and Germany?
- A. They were completely industrialized by the start of the nineteenth century.
 - B. They possessed plentiful supplies of coal.
 - C. They were overtaken economically by the Netherlands and Scandinavia during the early nineteenth century.
 - D. They succeeded for the same reasons that the Netherlands and Scandinavia did.

Paragraph 2

2. Paragraph 2 suggests which of the following about the importance of population density in the industrialization of the Netherlands and Scandinavia?
- A. It was a more important factor than population size.
 - B. It was more influential than the rate of population growth.
 - C. It was more important in the early stages than it was later.
 - D. It was not a significant factor.

Industrialization in the Netherlands and Scandinavia

While some European countries, such as England and Germany, began to industrialize in the eighteenth century, the Netherlands and the Scandinavian countries of Denmark, Norway, and Sweden developed later. ■ All four of these countries lagged considerably behind in the early nineteenth century. ■ However, they industrialized rapidly in the second half of the century, especially in the last two or three decades. ■ In view of their later start and their lack of coal—undoubtedly the main reason they were not among the early industrializers—it is important to understand the sources of their success. ■

All had small populations. At the beginning of the nineteenth century, Denmark and Norway had fewer than 1 million people, while Sweden and the Netherlands had fewer than 2.5 million inhabitants. All exhibited moderate growth rates in the course of the century (Denmark the highest and Sweden the lowest), but all more than doubled in population by 1900. Density varied greatly. The Netherlands had one of the highest population densities in Europe,

3. According to paragraphs 2 and 3, which of the following contributed significantly to the successful economic development of the Netherlands and of Scandinavia?

- A. The relatively small size of their populations
- B. The rapid rate at which their populations were growing
- C. The large amount of capital they had available for investment
- D. The high proportion of their citizens who were educated

Paragraph 4

4. According to paragraph 4, because of their location the Netherlands and the Scandinavian countries had all of the following advantages when they began to industrialize EXCEPT

- A. low-cost transportation of goods
- B. access to fish
- C. shipbuilding industrial
- D. military control of the sea

5. The word “exceptional” in the passage is closest in meaning to

- A. extraordinary
- B. surprising
- C. immediate
- D. predictable

6. The word “abolished” in the passage is closest in meaning to

- A. ended
- B. raised

whereas Norway and Sweden had the lowest Denmark was in between but closer to the Netherlands.

Considering human capital as a characteristic of the population, however, all four countries were advantaged by the large percentages of their populations who could read and write. In both 1850 and 1914, the Scandinavian countries had the highest literacy rates in Europe, or in the world, and the Netherlands was well above the European average. This fact was of enormous value in helping the national economies find their niches in the evolving currents of the international economy.

Location was an important factor for all four countries. All had immediate access to the sea, and this had important implications for a significant international resource, fish, as well as for cheap transport, merchant marines, and the shipbuilding industry. Each took advantage of these opportunities in its own way. The people of the Netherlands, with a long tradition of fisheries and mercantile shipping, had difficulty in developing good harbors suitable for steamships: eventually they did so at Rotterdam and Amsterdam, with exceptional results for transit trade with Germany and central Europe and for the processing of overseas foodstuffs and raw materials (sugar, tobacco, chocolate, grain, and eventually oil). Denmark also had an admirable commercial

- C. returned
- D. lowered

Paragraph 5

7. According to paragraph 5, each of the following contributed positively to the industrialization of the Netherlands and Scandinavia EXCEPT
- A. generally liberal trade policies
 - B. huge projects undertaken by the state
 - C. relatively uncorrupt governments
 - D. relatively little social or political disruption
8. The word “progressive” in the passage is closest in meaning to
- A. rapid
 - B. partial
 - C. increasing
 - D. individual
9. The author includes the information that “a protectionist movement developed in Sweden” in order to
- A. support the claim that the political institutions of the four countries posed no significant barriers to industrialization or economic growth
 - B. identify an exception to the general trend favoring liberal trade policy
 - C. explain why Sweden industrialized less quickly than the other Scandinavian

history, particularly with respect to traffic through the Sound (the strait separating Denmark and Sweden). In 1857, in return for a payment of 63 million kronor from other commercial nations, Denmark abolished the Sound toll dues the fees it had collected since 1497 for the use of the Sound. This, along with other policy shifts toward free trade, resulted in a significant increase in traffic through the Sound and in the port of Copenhagen.

The political institutions of the four countries posed no significant barriers to industrialization or economic growth. The nineteenth century passed relatively peacefully for these countries, with progressive democratization taking place in all of them. They were reasonably well governed, without notable corruption or grandiose state projects, although in all of them the government gave some aid to railways, and in Sweden the state built the main lines. As small countries dependent on foreign markets, they followed a liberal trade policy in the main, though a protectionist movement developed in Sweden. In Denmark and Sweden agricultural reforms took place gradually from the late eighteenth century through the first half of the nineteenth, resulting in a new class of peasant landowners with a definite market orientation.

countries and the Netherlands

D. provide evidence that agricultural reforms take place more quickly in countries that have a liberal trade policy than in those that do not

Paragraph 6

10. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage?

Incorrect choices change the meaning in important ways or leave out essential information

- A. The early industrializers controlled most of the international economy, leaving these countries to stake out new areas of specialization along the margins.
- B. Aided by their high literacy rates these countries were able to claim key areas of specialization within established international markets.
- C. High literacy rates enabled these countries to take over international markets and adapt the international division of labor to suit their strengths.
- D. The international division of labor established by the early industrializers was well suited to these countries, a key factor in their success.

11. According to paragraph 6, a major problem with depending heavily on international markets was that they

- A. lacked stability
- B. were not well suited to agricultural products
- C. were largely controlled by the early industrializers
- D. led to slower growth of local industries

12. According to paragraph 6, what advantage could a country gain from

The key factor in the success of these countries (along with high literacy, which contributed to it) was their ability to adapt to the international division of labor determined by the early industrializers and to stake out areas of specialization in international markets for which they were especially well suited. This meant a great dependence on international commerce, which had notorious fluctuations; but it also meant high returns to those factors of production that were fortunate enough to be well placed in times of prosperity. In Sweden exports accounted for 18 percent of the national income in 1870, and in 1913, 22 percent of a much larger national income. In the early twentieth century, Denmark exported 63 percent of its agricultural production: butter, pork products, and eggs. It exported 80 percent of its butter, almost all to Great Britain, where it accounted for 40 percent of British butter imports.

being heavily involved in international commerce?

- A. A steadily rising national income
- B. Greater control over market fluctuations
- C. High returns when things went well
- D. A reduced need for imports

13. Look at the four squares ■ that indicate where the following sentence could be added to the passage. During this period, Sweden had the highest rate of growth of output per capita of any country in Europe, and Denmark was second.

Where would the sentence best fit?

13. Although the Netherlands and Scandinavia began to industrialize relatively late, they did so very successfully.

- A. Although these countries all started with small, uneducated populations, industrialization led to significant population growth and higher literacy rates.
- B. Because they all started with good harbors for steamships, these countries started with an important advantage in the competition for transit trade
- C. These countries were successful primarily because their high literacy rates helped them fill specialized market niches
- D. Thanks to their ready access to the sea, these countries enjoyed advantages in mercantile shipping, fishing, and shipbuilding
- E. These countries were helped by the fact that their governments were relatively stable and honest and generally

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supported liberal trade policies
F. Because they were never fully
dependent on international commerce,
these countries were able to survive
notorious fluctuations in international
markets

The Mystery of Yawning

Paragraph 1

1. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? Incorrect choices change the meaning in important ways or leave out essential information.

- A. It is the conventional theory that when people are bored or sleepy, they often experience a drop in blood oxygen levels due to their shallow breathing
- B. The conventional theory is that people yawn when bored or sleepy because yawning raises blood oxygen levels, which in turn raises alertness
- C. According to conventional theory, yawning is more likely to occur when people are bored or sleepy than when they are alert and breathing deeply
- D. Yawning according to the conventional theory, is caused by boredom or lack of sleep and can be avoided through deeper breathing

2. In paragraph 1, what point does the author make about the evidence for the tiredness theory of yawning?

- A. There is no scientific evidence linking yawning with tiredness.

According to conventional theory, yawning takes place when people are bored or sleepy and serves the function of increasing alertness by reversing, through deeper breathing, the drop in blood oxygen levels that are caused by the shallow breathing that accompanies lack of sleep or boredom. Unfortunately, the few scientific investigations of yawning have failed to find any connection between how often someone yawns and how much sleep they have had or how tired they are. About the closest any research has come to supporting the tiredness theory is to confirm that adults yawn more often on weekdays than at weekends, and that school children yawn more frequently in their first year at primary school than they do in kindergarten.

- B. The evidence is wide-ranging because it covers multiple age-groups.
- C. The evidence is reliable because it was collected over a long period of time.
- D. The evidence is questionable because the yawning patterns of children and adults should be different.

Paragraph 2

3. The word “flaw” in the passage is closest in meaning to
 - A.fault
 - B.aspect
 - C.confusion
 - D.mystery
4. In paragraph 2 why does the author note that there were physiological changes when subjects opened their mouths or breathed deeply?
 - A. To present an argument in support of the tiredness theory
 - B. To cast doubt on the reliability of the tests that measured heart rate, muscle tension and skin conductance
 - C. To argue against the hypothesis that yawning provides a special way to improve alertness or raise physiological activity
 - D. To support the idea that opening the mouth or breathing deeply can affect blood oxygen levels
5. The word “triggered” in the passage is closest in meaning to
 - A. removed
 - B. followed
 - C. increased
 - D. caused
6. Paragraph 2 answers all of the following questions about yawning EXCEPT

Another flaw of the tiredness theory is that yawning does not raise alertness or physiological activity, as the theory would predict. When researchers measured the heart rate, muscle tension and skin conductance of people before, during and after yawning, they did detect some changes in skin conductance following yawning, indicating a slight increase in physiological activity. However, similar changes occurred when the subjects were asked simply to open their mouths or to breathe deeply. Yawning did nothing special to their state of physiological activity. Experiments have also cast serious doubt on the belief that yawning is triggered by a drop in blood oxygen or a rise in blood carbon dioxide. ■ Volunteers were told to think about yawning while they breathed either normal air, pure oxygen, or an air mixture with an above-normal level of carbon dioxide. ■ If the theory was correct, breathing air with extra carbon dioxide should have triggered yawning, while breathing pure oxygen should have suppressed yawning. ■ In fact, neither condition made any difference to the frequency of yawning, which remained constant at about 24 yawns per hour ■ Another experiment demonstrated that

- A. Does yawning increase alertness or physiological activity?
- B. Does thinking about yawning increase yawning over not thinking about yawning?
- C. Does the amount of carbon dioxide and oxygen in the air affect the rate at which people yawn?
- D. Does the rate of breathing affect the rate at which people yawn?

Paragraph 3

7. The word "periodically" in the passage is closest in meaning to

- A. continuously
- B. quickly
- C. regularly
- D. carefully

8. According to the developmental theory of yawning presented in paragraph 3, what is the role of yawning?

- A. It causes hiccups which aid in the development of the lungs.
- B. It controls the amount of pressure the lungs place on other developing organs
- C. It prevents amniotic fluid from entering the lungs.
- D. It removes a potentially harmful fluid from the lungs

9. Paragraph 3 supports which of the following statements about the developmental theory of yawning?

- A. The theory is attractive because it explains yawning from the perspective of Darwinian evolution
- B. The theory is unsatisfactory because it cannot explain the lung deformities of infants
- C. The theory is questionable because it does not explain why a useless and inconvenient behavior would continue into adulthood

physical exercise, which was sufficiently vigorous to double the rate of breathing, had no effect on the frequency of yawning. Again the implication is that yawning has little or nothing to do with oxygen.

A completely different theory holds that yawning assists in the physical development of the lungs early in life, but has no remaining biological function in adults. It has been suggested that yawning and hiccupping might serve to clear out the fetus's airways. The lungs of a fetus secrete a liquid that mixes with its mother's amniotic fluid. Babies with congenital blockages that prevent this fluid from escaping from their lungs are sometimes born with deformed lungs. It might be that yawning helps to clear out the lungs by periodically lowering the pressure in them. According to this theory, yawning in adults is just a developmental fossil with no biological function. But, while accepting that not everything in life can be explained by Darwinian evolution, there are sound reasons for being skeptical of theories like this one, which avoid the issue of what yawning does for adults. Yawning is distracting, consumes energy and takes time. It is almost certainly doing something significant in adults as well as in fetuses. What could it be?

D. The theory is incomplete because it does not explain all the evolutionary stages in the development of yawning

Paragraph 4

10. The word “empirical” in the passage is closest in meaning to

- A. reliable
- B. based on common sense
- C. relevant
- D. based on observation

11. The study of yawning behavior discussed in paragraph 4 supports which of the following conclusions?

- A. Yawning is associated with an expectation of increased physical activity.
- B. Yawning occurs more frequently when people are asked to record their yawning.
- C. People tend to yawn about fifteen minutes before they become tired or bored
- D. Mental or physical stress tends to make people yawn

12. Why does the author mention “soldiers yawning before combat, musicians yawning before performing, and athletes yawning before competing”?

- A. To argue that just the expectation of physical activity can make some people feel tired
- B. To explain how the view that people yawn because they are tired accounts for yawning before stressful situations
- C. To support the view that yawning helps prepare a person for mental or physical exertion
- D. To provide anecdotal evidence that conflicts with the experience of the volunteers in the study

13. Look at the four squares ■ that indicate where the following sentence could be added to

The empirical evidence, such as it is, suggests an altogether different function for yawning—namely, that yawning prepares us for a change in activity level. Support for this theory came from a study of yawning behavior in everyday life. Volunteers wore wrist-mounted devices that automatically recorded their physical activity for up to two weeks: the volunteers also recorded their yawns by pressing a button on the device each time they yawned. The data showed that yawning tended to occur about 15 minutes before a period of increased behavioral activity. Yawning bore no relationship to sleep patterns, however. This accords with anecdotal evidence that people often yawn in situations where they are neither tired nor bored, but are preparing for impending mental and physical activity. Such yawning is often referred to as “incongruous” because it seems out of place, at least on the tiredness view: soldiers yawning before combat, musicians yawning before performing, and athletes yawning before competing. Their yawning seems to have nothing to do with sleepiness or boredom—quite the reverse—but it does precede a change in activity level.

Another flaw of the tiredness theory

the passage

This, however, was not the case.

Where would the sentence best fit?

14. The tiredness theory of yawning does not seem to explain why yawning occurs.

Answer Choices

A. Although earlier scientific studies strongly supported the tiredness theory new evidence has cast doubt on these findings.

B. Some have proposed that yawning plays a role in the development of the lungs before birth but that it serves no purpose in adults

C. New studies, along with anecdotal evidence, have shown that the frequency of yawning increases during extended periods of inactivity.

D. Evidence has shown that yawning is almost completely unrelated to the amount of oxygen in the blood and is unrelated to sleep behavior

E. Fluids in the lungs of the fetus prevent yawning from occurring which disproves the developmental theory of yawning

F. There is some evidence that suggests that yawning prepares the body and mind for a change in activity level

is that yawning does not raise alertness or physiological activity, as the theory would predict. When researchers measured the heart rate, muscle tension and skin conductance of people before, during and after yawning, they did detect some changes in skin conductance following yawning, indicating a slight increase in physiological activity. However, similar changes occurred when the subjects were asked simply to open their mouths or to breathe deeply. Yawning did nothing special to their state of physiological activity. Experiments have also cast serious doubt on the belief that yawning is triggered by a drop in blood oxygen or a rise in blood carbon dioxide. ■ Volunteers were told to think about yawning while they breathed either normal air, pure oxygen, or an air mixture with an above-normal level of carbon dioxide. ■ If the theory was correct, breathing air with extra carbon dioxide should have triggered yawning, while breathing pure oxygen should have suppressed yawning. ■ In fact, neither condition made any difference to the frequency of yawning, which remained constant at about 24 yawns per hour ■ Another experiment demonstrated that physical exercise, which was sufficiently vigorous to double the rate of breathing, had no effect on the frequency of yawning. Again the implication is that yawning has little or nothing to do with oxygen.

Lighting

Lightning is a brilliant flash of light produced by an electrical discharge from a storm cloud. The electrical discharge takes place when the attractive tension between a region of negatively charged particles and a region of positively charged particles becomes so great that the charged particles suddenly rush together. The coming together of the oppositely charged particles neutralizes the electrical tension and releases a tremendous amount of energy, which we see as lightning. The separation of positively and negatively charged particles takes place during the development of the storm cloud.

Paragraph 1

1. According to paragraph 1, all of the following take place in the development of a flash of lightning EXCEPT
 - A. great tension between two oppositely charged regions
 - B. an increase in negatively charged particles over positively charged particles
 - C. oppositely charged particles coming together
 - D. the release of electrical energy in the form of visible light
2. The word "tremendous" in the passage is closest in meaning to
 - A. distinct
 - B. growing
 - C. huge
 - D. immediate

Paragraph 2

3. According to paragraph 2, what causes ice crystals to become positively charged?
 - A. Collisions with ice pellets
 - B. Collisions with negatively charged ice crystals at the base of the cloud
 - C. Becoming concentrated in the central region of the cloud
 - D. Forming at a temperature greater than -15°C
4. The word "acquire" in the passage is closest in meaning to
 - A. reject
 - B. obtain
 - C. need

The separation of charged particles that forms in a storm cloud has a sandwich-like structure. Concentrations of positively charged particles develop at the top and bottom of the cloud, but the middle region becomes negatively charged. Recent measurements made in the field together with laboratory simulations offer a promising explanation of how this structure of charged particles forms. What happens is that small (millimeter-to centimeter-size) pellets of ice form in the cold upper regions of the cloud. When these ice pellets fall, some of

D. produce

5. According to paragraph 2, why are positively charged ice pellets produced in the lower part of the cloud?

A. Collisions between ice crystals and ice pellets increase in number in the lower part of the cloud

B. The lower part of the cloud is smaller than the region above it

C. More ice pellets than ice crystals reach the lower part of the cloud

D. Temperatures in the lower part of the cloud are warmer than -15°C .

6. According to paragraph 2, the middle region of a cloud becomes negatively charged due to all of the following EXCEPT

A. a shift of electrical charges between ice pellets and ice crystals

B. negatively charged ice pellets that remain in the middle

C. a temperature of -15°C or less

D. the development of a positive charge at the base of the cloud

Paragraph 3

7. The author remarks that "Lightning that strikes the ground is the most likely to be destructive" in order to explain why

A. this form of lightning has been investigated so much

B. this form of lightning is not as common as lightning within a cloud

C. scientific understanding of this form of lightning is important

D. the buildup of positive charge on the ground beneath a storm cloud can have

them strike much smaller ice crystals in the center of the cloud. The temperature at the center of the cloud is about -15°C or lower. At such temperatures, the collision between the ice pellets and the ice crystals causes electrical charges to shift so that the ice pellets acquire a negative charge and the ice crystals become positively charged. Then updraft wind currents carry the light, positively charged ice crystals up to the top of the cloud. The heavier negatively charged ice pellets are left to concentrate in the center. This process explains why the top of the cloud becomes positively charged, while the center becomes negatively charged. The negatively charged region is large: several hundred meters thick and several kilometers in diameter. Below this large, cold, negatively charged region, the cloud is warmer than -15°C , and at these temperatures, collisions between ice crystals and falling ice pellets produce positively charged ice pellets that then populate a small region at the base of the cloud.

Most lightning takes place within a cloud when the charge separation within the cloud collapses. However, as the storm cloud develops, the ground beneath the cloud becomes positively charged and lightning can take place in the form of an electrical discharge between the

serious consequences

Paragraph 4

8. The word "illuminates" in the passage is closest in meaning to

- A. opens
- B. completes
- C. lights
- D. electrifies

Paragraph 5

9. According to paragraph 5, which of the following is true of the stream of charged particles from the ground?

- A. It prevents streams of electrons from the cloud from striking the ground
- B. It completes a channel that connects the storm cloud with the ground
- C. It produces a stream of electrons from the cloud
- D. It widens the path made by the initial stream of electrons from the cloud

10. Which of the following claims about lightning strikes can be inferred from paragraph 5 ?

- A. During a lightning strike the diameter of the channel the electrons follow is considerably enlarged beyond a few centimeters
- B. A building is unlikely to be hit by lightning unless it is at least 100 meters tall

negative charge of the cloud and the positively charged ground. Lightning that strikes the ground is the most likely to be destructive, so even though it represents only 20 percent of all lightning, it has received a lot of scientific attention.

Using high-speed photography, scientists have determined that there are two steps to the occurrence of lightning from a cloud to the ground. First, a channel, or path, is formed that connects the cloud and the ground. Then a strong current of electrons follows that path from the cloud to the ground, and it is that current that illuminates the channel as the lightning we see.

The formation of the channel is initiated when electrons surge from the cloud base toward the ground. When a stream of these negatively charged electrons comes within 100 meters of the ground it is met by a stream of positively charged particles that comes up from the ground. When the negatively and positively charged streams meet, a complete channel connecting the cloud and the ground is formed. The channel is only a few centimeters in diameter, but that is wide enough for electrons to follow the channel to the ground in the visible form of a flash of lightning. The stream of positive particles that meets the surge of electrons from the cloud often arises from a tall pointed structure such as a metal flagpole or a

C. A building is hit by a lightning strike because the building itself has first determined the path the lightning then takes to it

D. The light of a lightning strike first appears at the point where the streams of negative and positive particles meet

11. It can be inferred from paragraph 2 that part of the reason that the top of a storm cloud becomes positively charged is that

A. the top of the cloud is warmer than the middle of the cloud

B. the middle of the cloud is already occupied by positively charged particles

C. the negatively charged ice pellets are too heavy to be carried by the updrafts that move ice crystals

D. collisions between ice pellets in the top of the cloud produce mainly positively charged particles

12. The word “initiated” is closest in meaning to

A. started

B. intensified

C. finished

D. expected

13. Look at the four squares ■ that indicate where the following sentence could be added to the passage

The descending stream of electrons divides at the point where the new positive-stream channel intersects the established path.

Where would the sentence best fit?

14. Lightning takes place when a separation of positive and negative electrical particles that develop in a storm

tower. That is why the subsequent lightning that follows the completed channel often strikes a tall structure. ■

Once a channel has been formed, it is usually used by several lightning discharges, each of them consisting of a stream of electrons from the cloud meeting a stream of positive particles along the established path. ■

Sometimes, however, a stream of electrons following an established channel is met by a positive stream making a new path up from the ground. ■ The result is a forked lightning that strikes the ground in two places. ■

cloud suddenly collapses.

A. A storm cloud first develops a positively charged layer at the top then a negatively charged middle layer and finally, a positively charged layer at the bottom

B. Lightning from cloud to ground follows a channel that forms when a stream of electrons moving down meets a stream of positive particles coming up from the ground

C. Lightning from a cloud to the ground is more likely to be destructive than is lightning that takes place within a cloud

D. A separation of oppositely charged particles in clouds develops from collisions of falling ice pellets with ice crystals, from updrafts and from temperature variations

E. Field studies laboratory simulations and high-speed photography have all been used to investigate the way charge separations develop in clouds

F. Once a channel has been formed it is usually used by several successive electrical discharges that illuminate the channel as flashes of lightning

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LISTENING

1. Why does the student go to the university office?

- A. To apply for a work-study job
- B. To get information about hosting an exchange student
- C. To find out if there are any jobs available on campus
- D. To find out the hours of the computer lab

2. Why did the student transfer to Central University?

- A. To take advantage of an academic program
- B. To participate in a student exchange program
- C. To attend a smaller university than the one he was at before
- D. To benefit from Central University's international reputation

3. Why does the student mention hosting foreign-exchange students?

- A. To explain his interest in a particular field of study
- B. To explain why he is looking for a job so late in the semester
- C. To explain why he would like to be an exchange student the following year
- D. To explain how he learned his computer skills

4. What can be inferred about students who apply for the open position at the technology-support helpdesk.

- A. They must be enrolled in a computer course.
- B. They will only be able to work on weekends.
- C. They are willing to work many hours each day they work
- D. They are willing to work irregular hours.

5. Why does the woman say this

- A. To dissuade the student from starting a job right way
- B. To suggest looking for an off-campus job
- C. To imply that the student might not like the job that is available
- D. To encourage the student to apply to a work-study program

6. What is the lecture mainly about?

- A.The importance of record keeping in the development of hypotheses
- B.The relationship between sunspots and Earth's geomagnetic cycle
- C.The progression of scientific knowledge about sunspots
- D.The effect of sunspots on Earth's climate

7. Why did European astronomers before the time of Galileo not believe sunspots were on the Sun's surface?

- A.They based their beliefs on earlier observations by Chinese astronomers
- B.The idea was contrary to their beliefs about objects in space.
- C.The sunspots often changed their shape.
- D.The sunspots were not always visible.

8. Which hypothesis regarding sunspots did Galileo Challenge?

- A.Sunspots are shadows of planets trussing the Sun
- B.Sunspots are cloud in the solar atmosphere.
- C.Sunspots are evidence of the Sun's rotation.
- D.Sunspots are evidence of magnetic fields.

9. What was the importance of Schwabe's abservations?

- A.They determined the age of sunspots.
- B.They established that sunspots appear in cycles.
- C.They proved that sunspots were actually on the Sun.
- D.They showed the reason that sunspots change their shape

10. What is the professor's attitude toward Schwabe's and Wolf's research?

- A.He is surprised that the research is contradictory.
- B.He is impressed by how many years were spent on the research.
- C.He has difficulty believing that research should take so long.
- D.He doubts that the research is given enough credit by modern astronomers

11. Why does the professor imply about the discovery of a relationship between the sunspot cycle and Earth's geomagnetic cycle?

- A.It proved that Gallieo's cloud hypothesis was correct.
- B.It showed how conditions on Earth can affect the Sun.
- C.It was the start of modern astronomy.

D.It led to a period of intense scientific research.

12. What is the lecture mainly about?

- A.Different views of a type of sculpture popular in ancient Roman times
- B.Evidence that Romans had outstanding artistic ability
- C.The differences between Greek sculpture and Roman sculpture
- D.The relationship between art and politics in ancient Roman times

13. According to traditional art, why did the Romans copy Greek sculpture?

- A.The Roman public was not interested in original works of art.
- B.The Roman government did not support other forms of art.
- C.Roman artists did not have sufficient skill to create original sculpture
- D.Romans wanted to imitate the art they admired.

14. What is Gazda's view of the Roman copies of Greek statues?

- A.The copies represented the idea that Roman society was similar to Greek society
- B.The copies introduced the citizens of the Roman Empire to Greek history.
- C.The copies were inferior to the original statues.
- D.The copies had both artistic and political functions.

15. Why does the professor mention Roman coins?

- A.To show the similarity between the likenesses of the emperor in statues and on coins
- B.To illustrate the Roman policy of distributing the emperor's image throughout the empire
- C.To imply that the citizens of the Roman Empire became quite wealthy
- D.To suggest that the Romans also copied Greek art on their coins

16. According to the professor, why did the Romans sometimes remove the emperor's head from a statue? Click on 2 answers

- A.The head made the statue too heavy to transport.
- B.The head was placed on the body of a different statue.
- C.The emperor was no longer in power.
- D.The emperor was not satisfied with the quality of the statue

17. What does the professor imply when he says this

- A. Art historians frequently change their views.
- B. The contemporary view is not easy to understand.
- C. It is not difficult to determine why the Romans copied Greek sculptures
- D. The view of traditional art historians is probably incorrect

18. What is the conversation mainly about?

- A. The topic of the man's research paper
- B. Some current research projects in sociology
- C. Effective ways of conducting sociology research
- D. The man's possible participation in a research project

19. What does the professor imply about the man's outline?

- A. It has revealed that he should limit the focus of his paper.
- B. It does not provide enough information for him to write the paper
- C. It will help him write clearly about a complex topic.
- D. It overstates the connection between sociology and marketing

20. What is the main goal of the study that the professor's colleague is conducting?

- A. To find out if some television shows will be popular with people in a certain age range
- B. To collect information about food products that college students like
- C. To generate ideas for new television shows
- D. To determine sociological factors that are related to people's television-viewing preferences

21. What does the professor imply about the owners of Fox's Diner

- A. They would probably do a favor for her.
- B. They are unlikely to grant the man's request.
- C. They would enjoy participating in the research study
- D. They often advertise on television.

22. What does the professor mean when she says this

- A. The student could probably find a marketing professor who has an interest in sociology
- B. The student's marketing professor might not be aware of the television study.
- C. No more students are needed to participate in the television study.
- D. The marketing department needs students for several research studies.

23. What is the main purpose of the lecture?

- A.To explore the use of spices in cooking in the Middle Ages
- B.To explain the significance of spices for medieval society
- C.To describe how the spice trade evolved in medieval Europe
- D.To examine changes in the role that spices played in the Middle Ages

24. Based on the lecture, indicate whether each of the following is true about spices in native Europe?

TRUE

FALSE

- A.They had to be imported.
- B.They were unaffordable for many people.
- C.They were used to preserve meat during the winter.
- D.They were believed to have medicinal properties.
- E. Their sale in public markets was closely regulated.

25. What two factors explain why medieval Europeans did not use spices to cover the taste of spoiled meat? Click on 2 answers

- A.Fresh meat was less expensive than spices were.
- B.Spices were mainly used in incense and perfume.
- C.The sale of spoiled food was prohibited.
- D.Salt was cheaper than most spices were.

26. Why does the professor mention the collapse of the Roman Empire?

- A.To indicate that the spice trade became more direct
- B.To explain why the price of pepper suddenly increased
- C.To indicate that spices were not available in Europe for centuries
- D.To explain why the origins of spices became more mysterious

27. What does the professor say about European explorers during the age of discovery?

- A.Their discoveries caused the price of certain spices to increase
- B.They were responding to the demand for spices.
- C.They did not expect to find spices during their explorations.
- D.Their main goal was to discover unknown lands.

28. Why does the professor say this

- A. To indicate that pepper was commonly used as payment
- B. To indicate where pepper could be found at the time
- C. To emphasize the high value of pepper at the time
- D. To suggest that pepper was nearly as plentiful as gold

29. What is the main purpose of the lecture?

- A. To explain the biological advantages of a physical change that occurs in North American wood frogs
- B. To explain why the North American wood frog's habitat range has expanded
- C. To describe the functioning of the circulatory system of the North American wood frog
- D. To introduce students to an unusual phenomenon affecting North American wood frogs

30. Why does the professor first mention the arrival of spring?

- A. To encourage students to look for thawing wood frogs
- B. To point out the time period when frogs begin mating
- C. To explain why the class will soon be doing experiments with wood frogs
- D. To emphasize the speed of the thawing process

31. What happens to a wood frog as it begins to freeze?

- A. Blood is concentrated in the center of its body.
- B. Blood stops producing sugar
- C. Water moves out of its internal organs.
- D. Water from just beneath the skin begins to evaporate

32. What are two points the professor makes about the thawing process of the wood frog? Click on 2 answers.

- A. The thawing process is not fully understood.
- B. The thawing process takes longer than the freezing process.
- C. The frog's internal organs thaw before its outer skin thaws.
- D. Thawing occurs when the frog's heart begins pumping glucose through its body.

33. What impact does freezing have on some thawed wood frogs?

- A. It increases their reproductive success.

- B. It decreases their life span.
- C. It causes them to be more vocal and active.
- D. It reduces their ability to recognize potential mates.

34. What does the professor imply when she says this

- A. She wants the student to clarify his question.
- B. She wants the student to draw his own conclusions.
- C. She thinks the student does not understand how car antifreeze works
- D. She thinks the student has misunderstood her point

SPEAKING

1. Imagine your life ten years in the future. Talk about one way you think your life will be different in ten years than it is now. Use details to explain your answer. 【事件】
2. Do you agree or disagree with the following statement? It is important to learn about other cultures. 【agree】

3.University Choir to Enter Off-Campus Singing Competitions

Currently, the university choir gives singing concerts only on campus. Next year, however, the choir will add competitive events at other locations to its schedule. The choir's new director feels that entering singing competitions will make the quality of the choir's performance even better than it is now. "Competitions will motivate students in the choir to pursue a higher standard of excellence in singing." He said. In addition, it is hoped that getting the choir off campus and out in the public will strengthen the reputation of the university's music program. This in turn will help the program grow.

The man expresses her opinion about the change described in the article. Briefly summarize the change. Then state her opinion and explain the reasons she gives for holding that opinion.

4.Relict Behavior

In general, animals act in ways that help them to survive within their specific habitats. However, sometimes an animal species may display a behavior that no longer serves a clear purpose. The original purpose for the behavior may have disappeared long ago, even thousands of years before. These behaviors, known as relict behaviors, were useful to the animal when the species' habitat was different: but now, because of changed conditions, the behavior no longer serves its original purpose. Left over from an earlier time, the behavior remains as relict, or remnant, long after the environmental circumstance that influenced its evolution has vanished.

Using the example of the pronghorn and lion, explain the concept of a relict behavior.

5. Briefly summarize the problem the speakers are discussing. Then state which solution you would recommend and explain the reasons for your recommendation.
6. Using points and examples from the lecture, explain how the characteristics of target customers influence marketing strategy for products.

WRITING

TASK 1

In the 1950s *Torreya taxifolia*, a type of evergreen tree once very common in the state of Florida, started to die out. No one is sure exactly what caused the decline, but chances are good that if nothing is done, *Torreya* will soon become extinct. Experts are considering three ways to address the decline of *Torreya*.

The first option is to reestablish *Torreya* in the same location in which it thrived for thousands of years. *Torreya* used to be found in abundance in the northern part of Florida, which has a specific microclimate. A microclimate exists when weather conditions inside a relatively small area differ from the region of which that area is a part. Northern Florida's microclimate is very favorable to *Torreya*'s growth. This microclimate is wetter and cooler than the surrounding region's relatively dry, warm climate. Scientists have been working to plant *Torreya* seeds in the coolest, dampest areas of the microclimate.

The second option is to move *Torreya* to an entirely different location, far from its Florida microclimate. *Torreya* seeds and saplings have been successfully planted and grown in forests further north, where the temperature is significantly cooler. Some scientists believe that *Torreya* probably thrived in areas much further north in the distant past, so by relocating it now, in a process known as assisted migration, humans would simply be helping *Torreya* return to an environment that is more suited to its survival.

The third option is to preserve *Torreya* in research centers. Seeds and saplings can be moved from the wild and preserved in a closely monitored environment where it will be easier for scientists both to protect the species and conduct research on *Torreya*. This research can then be used to ensure the continued survival of the species.

Summarize the points made in the lecture, being sure to explain how they support/contradict specific points made in the reading passage.

TASK 2

Students are more influenced by their teachers than by their friends.

