

The American continents are home to a huge diversity of languages, from Mayo, found in places like Mexico in North America, to Koreguaje, found in places like Colombia in South America. Much like the continents themselves, the variety of native languages in the Americas is ____.

1

Mark for Review

APC

Which choice completes the text with the most logical and precise word or phrase?

- A immense
- B unknown
- C ordinary
- D limited

The minor planet 1095 Tulipa was named after the plant genus that includes tulips, but given the sheer number of minor planets that have been discovered (more than 500,000 so far), most are given only an identification number. Because any name given to a minor planet needs to be unique to that body, naming each would be ____.

2 Mark for Review

Which choice completes the text with the most logical and precise word or phrase?

- (A) impractical
- (B) presumptuous
- (C) ambiguous
- (D) customary

Drivers who strongly believe that the toll they must pay to use the San Luis Pass-Vacek Toll Bridge, which spans the San Luis Pass in Texas, is currently too high are likely to be ____ arguments for increasing the toll. Advocates for a higher toll are likely to have more success if they instead direct their arguments toward a more persuadable segment of the population.

3

Mark for Review



Which choice completes the text with the most logical and precise word or phrase?

- (A) cited in
- (B) apprised of
- (C) unsympathetic to
- (D) placated by

Though few critics consider Vasily Grossman's novel *Stalingrad*—which focuses on the experience of the Soviet Union in the early years of World War II—to be as well written as his later book *Everything Flows*, some compliment it despite the damage ____ Soviet censors: Gary Saul Morson in *The New York Review of Books* called the novel "remarkably bold."

4 Mark for Review

Which choice completes the text with the most logical and precise word or phrase?

- A bestowed on
- B wrought by
- C allocated to
- D concealed from



Archaeologists studying the ancient city of Pompeii in Italy recently discovered a well-preserved food shop known as a *thermopolium*. The site contains food remains, artworks, and decorations. These items give researchers a better understanding of what daily life in Pompeii may have been like. For example, the archaeologists found a ceramic jar that they believe likely contained a meat and seafood stew.

5**Mark for Review**

Which choice best states the main purpose of the text?

- (A) To discuss the political system of Italy
- (B) To present a recent archaeological discovery
- (C) To describe a region's climate
- (D) To compare ancient artworks with modern ones

Karl Polanyi and other historians of capitalism rarely discuss domestic capitalism in Africa before the period of European colonization, implicitly presenting capitalism as external to and imposed on Africa. Mariana Candido and other Africanist scholars have shown, however, that in parts of Africa, centrally administered industrial production, the legal treatment of land as private property, and other features of capitalism predated colonization. One reason for this discrepancy is that historians of capitalism tend to focus on longitudinal economic data drawn from archival records, which do not exist for much of precolonial Africa.

6**Mark for Review**

Which choice best describes the main purpose of the text?

- A To explain why historians of capitalism and Africanist scholars disagree about which activities are features of capitalism
- B To present and account for a potentially misleading characteristic of the work of historians of capitalism
- C To describe and evaluate a method used by Africanist scholars that distinguishes their work from that of historians of capitalism
- D To summarize a debate between historians of capitalism and Africanist scholars about how to interpret longitudinal economic data from archival records

The following text is adapted from George Eliot's 1857 short story "The Sad Fortunes of the Rev. Amos Barton." The Countess Czerlaski is a newcomer to the town of Milby.

I am by no means sure that if the good people of Milby had known the truth about the Countess Czerlaski, they would not have been considerably disappointed to find that it was very far from being as bad as they imagined. Nice distinctions are troublesome. It is so much easier to make up your mind that your neighbour is good for nothing, than to enter into all the circumstances that would oblige you to modify that opinion.

7

Mark for Review

Which choice best states the main purpose of the text?

- A To offer commentary on a human foible that may account for why the people of Milby view the Countess Czerlaski as they do
- B To speculate on the circumstances under which the unfavorable opinion of the Countess Czerlaski that is held by the people of Milby could be improved
- C To explain why the people of Milby are somewhat correct to reproach the Countess Czerlaski for her misdeeds
- D To engage the reader's compassion for both the Countess Czerlaski and the people of Milby by detailing their different viewpoints

The following text is from Julia Alvarez's 2000 novel *In the Name of Salomé*. Salomé, a poet, is hosting guests in the front parlor of her family home, and Ramona is her sister. A salon is a social gathering for the exploration of intellectual ideas.

It was evening when the two men got up to leave. Tía Ana had already come into the room several times to see if these guests had departed yet. The front parlor had always been her special province, as she used it for her little school. Now, every evening, it turned into Salomé's salon, as Ramona called it, and it was never in order for its transformation back to a classroom the following morning.

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8

Mark for Review

ABC

Based on the text, what most likely motivates Tía Ana's behavior during Salomé's salon?

- (A) She is frustrated because she needs assistance elsewhere in the house, but Salomé is unavailable while entertaining the guests.
- (B) She is anxious for the gathering to disperse so that she can ready the space for her own needs.
- (C) She is impatient to share her plans to start a new school with the guests and hopes they will support her.
- (D) She finds the guests to be dull and is eager to find a way to leave the salon.

Companies involved in petroleum extraction include drilling equipment among their assets. But petroleum extraction is a very carbon-intensive industry, so as social attitudes increasingly favor using less carbon-intensive sources of energy, demand for petroleum falls and the drilling equipment will eventually, or even suddenly, become a liability as reduced petroleum prices make it more difficult to recover the expense of maintaining such equipment.

9

Mark for Review

APC

What claim does the text make about the demand for petroleum?

- (A) Companies involved in petroleum extraction are not affected by the demand for petroleum.
- (B) The societal preference for low-carbon energy sources is a factor in the demand for petroleum.
- (C) The demand for petroleum follows a predictable annual cycle.
- (D) Companies involved in petroleum extraction can benefit from a decline in the demand for petroleum.

Why do flat-headed cats purr but jaguars roar? Researchers hypothesize that this difference between the two feline species may be partly due to a U-shaped bone in their throats called the hyoid. Flat-headed cats, which are much smaller than jaguars, have a rigid hyoid that rumbles when the cat's larynx vibrates, resulting in a purr. By contrast, jaguars have a somewhat flexible hyoid, and the bone is attached to the skull with a stretchy ligament that flat-headed cats lack. These traits allow jaguars and most other species of big cats to produce powerful roars. The same traits may also prevent most big cats from purring.

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Mark for Review



According to the text, which trait do researchers think may contribute to a flat-headed cat's ability to purr?

- (A) The shape of the flat-headed cat's larynx
- (B) The ligament attaching the hyoid bone to the flat-headed cat's skull
- (C) The flat-headed cat's rigid hyoid bone
- (D) The relative size of the flat-headed cat's body and throat

Total Areas of Five Hawaiian Home Lands

Home land	Area (square miles)
Nanakuli	3.61
Kawaihae	15.99
Kamoku-Kapulena	7.47
Kahikinui	37.26
Waimea	23.57

Hawaiian home lands are areas of public land in the state of Hawaii that have been reserved for use by the Kānaka' Maoli, or the Native Hawaiian people. The largest of the home lands, Homuula-Upper Piihonua, covers nearly 100 square miles on the island of Hawai'i. Most of the home lands are much smaller. For example, the total area of Kamoku-Kapulena is 7.47 square miles, and the total area of Nanakuli is ____.

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Mark for Review



Which choice most effectively uses data from the table to complete the example?

 A 37.26 square miles. B 3.61 square miles. C 23.57 square miles. D 15.99 square miles.

The Age of Innocence is a 1920 novel by Edith Wharton set in New York City in the 1870s. In the novel, Newland Archer attends an opera; in the audience is May Welland, with whom he is romantically involved. Newland visualizes the details of a future with May: _____

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 Mark for Review

Which quotation from *The Age of Innocence* best illustrates the claim?

- (A) “[May] dropped her eyes to the immense bouquet of lilies-of-the-valley on her knee, and Newland Archer saw her white-gloved finger-tips touch the flowers softly.”
- (B) “Newland Archer, leaning against the wall at the back of the club box [where his seat was], turned his eyes from the stage and scanned the opposite side of the house.”
- (C) “Though there was already talk...of a new Opera House which should compete in costliness and splendour with those of the great European capitals, the world of fashion was still content to reassemble every winter in the shabby red and gold boxes of the sociable old Academy [of Music].”
- (D) “Already [Newland’s] imagination, leaping ahead of the engagement ring, the betrothal kiss and the [wedding] march from Lohengrin, pictured [May] at his side.”

Water flowing around an obstruction creates vortices (patterns of swirls) of varying size; by detecting the vortices, fish can determine the size and position of the obstruction. Testing by Yuzo R. Yanagisuru, Otar Akanyeti, and James C. Liao using models of three head shapes—narrow (low ratio of width to length), intermediate, and wide (high ratio of width to length)—showed that for large vortices, fish with intermediate heads would be better able than wide-headed fish to distinguish between vortices and general turbulence in the water. A second research team has therefore hypothesized that in low-visibility conditions, intermediate-headed fish will be more likely than wide-headed fish to detect obstructions that create large vortices.

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Mark for Review



Which finding, if true, would most directly support the second research team's hypothesis?

- (A) A study using obstructions that created large vortices in low-visibility conditions found that the devil catfish (*Bagarius bagarius*), which has a relatively wide head, bumped into more than half of the obstructions.
- (B) A study using obstructions that created large vortices in low-visibility conditions found that the wide-headed devil catfish (*Bagarius bagarius*) bumped into obstructions more often than the intermediate-headed rainbow trout (*Oncorhynchus mykiss*) did.
- (C) A study using obstructions that created large vortices in low-visibility conditions found that the intermediate-headed rainbow trout (*Oncorhynchus mykiss*) bumped into the obstructions just as often as the wide-headed devil catfish (*Bagarius bagarius*) did.
- (D) A study using obstructions that created large vortices in low-visibility conditions found that some specimens of the intermediate-headed rainbow trout (*Oncorhynchus mykiss*) bumped into the obstructions more often than other specimens of the same fish did.

Population and Population Density of African Countries in 2015

Country	Density (inhabitants/km ²)	Area (km ²)	Estimated population
Lesotho	70.3	30,355	2,135,000
Mali	14.2	1,240,000	17,600,000
Zambia	21.5	752,614	16,212,000
Benin	96.6	112,620	10,880,000

As the second-most populous continent in the world, Africa was home to an estimated 1.186 billion people in 2015. In a paper for a social studies class, a student nonetheless notes that countries with very large populations may be less densely populated than are countries with much smaller populations, as can be seen by comparing ____.

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Mark for Review



Which choice most effectively uses data from the table to complete the example?

- (A) Zambia, which has a low density, with Benin, which has a similar density despite both countries having different geographic sizes.
- (B) the geographic size of Mali (1,240,000 square kilometers) with its relatively high population of 17,600,000 inhabitants.
- (C) Mali, which has a high population of 17,600,000 inhabitants and a relatively low density of 14.2 inhabitants/square kilometer, with Lesotho, which has a much lower population and a higher density.
- (D) the populations of both Lesotho and Benin in 2015 with their populations in 2010.

Humans have a very strong bias toward right-handedness, with approximately 85–90% having right as their dominant hand. Among studies of nonhuman primates, James Welles's 1976 study of captive chimpanzees and catarrhine monkeys reported more right-handed individuals than left-handed ones, but William C. McGrew and colleagues' 1999 study of wild chimpanzees did not find a tendency toward right-handedness. It's important to note, however, that captive animals spend significantly more time with humans than wild animals do, and therefore _____

Hide

A small square icon containing a stylized letter 'J' and the text 'johannesKP' repeated twice.

15

A small icon of a bookmark with the text 'Mark for Review' next to it.



Which choice most logically completes the text?

- (A) the apparent difference between the two studies' results may be partly attributable to the 1976 study using a different standard to determine handedness than the 1999 study did.
- (B) the right-handedness exhibited by the captive chimpanzees and catarrhine monkeys might be, in part, an effect of extended contact with humans.
- (C) the number of individuals in the study of captive chimpanzees and catarrhine monkeys is likely too small to support the claim that the species tends toward right-handedness.
- (D) the number of individuals in the study of wild chimpanzees is probably too small to support the claim that no tendency toward right-handedness was found in that population.



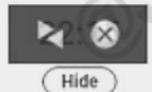
Used in everything from food to cleaning products, emulsifiers are compounds that serve to stabilize an emulsion—a mixture of two or more liquids that otherwise would not easily blend together. The emulsifiers used by ____ like oleic acid, allow these scientists to blend oil and water into homogeneous formulations such as lotions and perfumes.

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Mark for Review

Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) cosmetic chemists,
- (B) cosmetic chemist's,
- (C) cosmetic's chemists,
- (D) cosmetic chemists'.



Many mechanical calculators were powered by a notched cylinder mechanism called the Leibniz wheel. Leibniz wheel calculators were popular in the first half of the twentieth ____ these ingenious devices were eventually replaced by electronic calculators.

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Mark for Review

Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) century,
- (B) century that
- (C) century
- (D) century, but



Hide

Nigerian American artist Toyin Ojih Odutola uses black-ink pens to create highly detailed drawings of human figures. Her portrait of novelist Zadie ____ is displayed in the National Portrait Gallery in London.

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Mark for Review



Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) Smith:
- (B) Smith,
- (C) Smith
- (D) Smith—



Hide



The constitution of Australia, enacted in 1901, enshrines 11 total rights across 17,318 words of text. According to constitutional scholar George Tsebelis, who examines the implications of constitutional length on civil rights, ____ 102nd in a global ranking of the shortest constitutions.

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Mark for Review



Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) they're
- (B) their
- (C) it's
- (D) its

Between June 22 and July 2 each year, particles shed by comet 7P/Pons-Winnecke enter Earth's atmosphere at a velocity of 18 kilometers per second. Relatively few of these particles are likely to reach Earth's ____ since the meteoroids' compression of the air surrounding them causes the vast majority to burn up in the mesosphere, producing the June Boötid meteor shower.

20 **Mark for Review**

Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) surface, however;
- (B) surface, however;
- (C) surface; however,
- (D) surface. However,

While most animals prefer the safety of nighttime migration, many poisonous amphibians—a category that includes the red-bellied newt and the fire salamander—safely engage in migratory behavior during the day. ____ with the sun in the sky, the amphibians' striking color patterns deter visually oriented daytime predators by serving as a warning of toxicity.

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Mark for Review

Which choice completes the text with the most logical transition?

- (A) At that time,
- (B) For example,
- (C) In other words,
- (D) However,

Residents of Cairo, Egypt, rely on its rapid transit system, the Cairo Metro, for millions of trips each year. ____ city officials strive to maintain the system's 71 stations to ensure each of these journeys is as smooth as possible.

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Mark for Review



Which choice completes the text with the most logical transition?

- A For this reason.
- B However,
- C For example,
- D Alternatively,

Box modeling, used by digital artists to develop 3D assets for video games, yields objects with precise mathematical proportions. Granted, as they are formed from perfect geometric shapes, such 3D elements lack organic realism; ____ post-modeling processes such as UV surface mapping are needed to achieve the level of verisimilitude gamers expect.

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Mark for Review



Which choice completes the text with the most logical transition?

- A consequently,
- B similarly,
- C in sum,
- D however,

While researching a topic, a student has taken the following notes:

- Lighthouses send out crucial light signals to help ships and other watercraft navigate at night.
- Before automation, lighthouses were run by lighthouse keepers.
- Betsy Morrow Humphrey was the lighthouse keeper at Monhegan Island Light in Maine.
- She held this position from 1862 to 1880.
- Thelma Austin was the lighthouse keeper at Point Fermin Light in California.
- She held this position from 1925 to 1941.

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Mark for Review



The student wants to emphasize a difference between the two lighthouse keepers. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- (A)** As the lighthouse keeper at Point Fermin Light, Thelma Austin helped watercraft navigate at night.
- (B)** From 1862 to 1880, the nighttime waters of Maine were made more navigable thanks to Betsy Morrow Humphrey.
- (C)** Betsy Morrow Humphrey worked as a lighthouse keeper in an earlier century than did Thelma Austin.
- (D)** Betsy Morrow Humphrey and Thelma Austin both played crucial roles in ensuring safe navigation for watercraft in past centuries.

While researching a topic, a student has taken the following notes:

- If a moon orbiting a planet comes close enough to that planet, tidal forces can cause the moon to break apart.
- In a 2022 study, researchers proposed that Saturn was once orbited by a large moon they named Chrysalis.
- Their simulations indicated that Chrysalis would likely have come very close to Saturn around 160 million years ago.
- At that distance, Chrysalis would have been broken apart by tidal forces.
- The researchers hypothesized that the resulting debris formed Saturn's rings.

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Mark for Review



The student wants to recount the sequence of events proposed by the researchers. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- (A) According to researchers' simulations, debris from Saturn's rings would likely have caused Chrysalis—a large moon orbiting Saturn—to break apart around 160 million years ago.
- (B) In a 2022 study, researchers proposed that Saturn was once orbited by a large moon that broke apart.
- (C) Around 160 million years ago, a large moon (Chrysalis) may have come close enough to Saturn that tidal forces broke the moon apart; its debris then formed the planet's rings.
- (D) If a moon orbiting a planet (like Saturn) comes close enough to that planet, tidal forces can cause the moon to break apart.

- *Birds of Northern South America* is an identification guidebook by ornithologists Robin Restall, Clemencia Rodner, and Miguel Lentino.
- It lists the thirty-five hummingbird species found in Suriname.
- The green-throated mango is a large hummingbird found in Suriname.
- It is identifiable by its green throat and its long, black, curved bill.
- The horned sungem is a medium-sized hummingbird found in Suriname.
- It is identifiable by its distinctive multicolored, tufted crown and its short, black, straight bill.

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Mark for Review



Which choice most effectively uses information from the given sentences to emphasize a similarity between the two birds?

- (A) *Birds of Northern South America* is an expertly compiled guidebook by ornithologists Robin Restall, Clemencia Rodner, and Miguel Lentino.
- (B) Though they share several traits in common, the green-throated mango is larger than the horned sungem.
- (C) While each exhibits unique traits of its own, the green-throated mango and the horned sungem both have black bills.
- (D) The horned sungem is a medium-sized hummingbird identifiable by its distinctive multicolored, tufted crown and its sh^{rt}, black, straight bill.

While researching a topic, a student has taken the following notes:

- Little is known about the life of Wong Fei-hung (1847–1925).
- He was born near Foshan, China, and gained local recognition as a physician and Hung Ga (also known as Hung Gar) Kung Fu master.
- He achieved many incredible martial arts feats—some confirmed and some rumored.
- He has become an internationally known folk hero thanks to his depiction in over a hundred films, television shows, and other media.
- In the 1991 film *Once Upon a Time in China*, actor Jet Li portrays Wong Fei-hung using superhuman kung fu abilities to save his community.

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Mark for Review



The student wants to emphasize the effect media had on building Wong Fei-hung's legacy. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- (A) Thanks to his depiction in over a hundred pieces of media, Wong Fei-hung was locally known as a successful physician and Hung Ga Kung Fu master.
- (B) Wong Fei-hung's abilities as a kung fu master are depicted in many media, including the 1991 film *Once Upon a Time in China*.
- (C) Various media have depicted Wong Fei-hung, the successful physician and kung fu master who became an internationally known folk hero.
- (D) Though he was known locally during his lifetime, Wong Fei-hung's later depiction in television, film, and other media has turned him into an internationally known folk hero.

Possessing an outstanding collection of public art, Chicago has everything from monumental mosaics like Marc Chagall's *Four Seasons* at sites like Chase Tower to innovative street art like Kashink's mural *Be The Change You Wish To See* located on South Wabash Avenue. The _____ public art on display in the city can thus satisfy any art lover.

1

Mark for Review



Which choice completes the text with the most logical and precise word or phrase?

- (A) breadth of
- (B) controversy over
- (C) confusion about
- (D) apathy toward

In a 2018 article about films depicting the experiences of Black Americans, critics for the *New York Times* praise Madeline Anderson's 1970 film *I Am Somebody* as "galvanizing" and Carl Franklin's 1995 film *Devil in a Blue Dress* as "picture-perfect." Fans of the two films hope that such _____ will attract new audiences to these works.

2 Mark for Review

Which choice completes the text with the most logical and precise word or phrase?

- (A) ambivalence
- (B) acclaim
- (C) foresight
- (D) impartiality

The fossil remains of the individual known as Misliya-1, discovered in Israel in 2002, can help paleoanthropologists not only ____ steps in the evolution of hominids but also illuminate the Pleistocene epoch generally, revealing important details about the time in which Misliya-1 lived.

3

Mark for Review



Which choice completes the text with the most logical and precise word or phrase?

- (A) exploit
- (B) yield
- (C) prioritize
- (D) discern



Companies are providing consumers with more opportunities to purchase customized products than ever before. Whether buying customized sneakers, jewelry, or clothing, consumers can participate in the design of products to meet their specific needs and tastes. In turn, companies profit too; studies have shown that consumers are willing to pay more and wait longer for a customized product. Still, it can be difficult for companies to offer customization while keeping costs low, as the standard methods of mass production may not be able to accommodate making a unique product each time.

Hide

4

Mark for Review

Which choice best describes the overall structure of the text?

- (A) It discusses several recent innovations in product manufacturing and then suggests some potential applications of those innovations.
- (B) It describes a company's recent success with new products and then explains multiple factors that may have contributed to that success.
- (C) It presents two contrasting product-marketing techniques and then provides examples of one of those techniques.
- (D) It introduces a trend in consumer products and then explains how the trend both benefits and poses a challenge to companies.



Hide

The *Hundred Days*, first published in 1998, is a novel in Patrick O'Brian's Aubrey/Maturin series, which includes twenty completed books. Some critics have found fault with the abrupt endings of *The Hundred Days* and other books in the series, saying that they do not finish conclusively but arbitrarily stop. But other critics argue that the books should not be thought of as discrete texts with traditional beginnings and endings but as a single incredibly long work, similar to other multivolume stories, such as Marcel Proust's *In Search of Lost Time*.

5

Mark for Review



Which choice best describes the function of the underlined portion in the text as a whole?

- (A) It presents a reason most critics think the Aubrey/Maturin series should have the literary renown of similar works like *In Search of Lost Time*.
- (B) It explains why many critics find the Aubrey/Maturin novels to be entertaining despite flaws in the novels' structures.
- (C) It argues that the unusual structure that O'Brian uses for *The Hundred Days* makes it one of his most entertaining books.
- (D) It summarizes a positive assessment of a particular characteristic of the Aubrey/Maturin novels.

Vertical gene transfer involves the transmission of genetic material from a parent to offspring; horizontal gene transfer, on the other hand, involves the exchange of genetic material between organisms not in a parent-offspring relationship. While horizontal gene transfer is common among prokaryotes—single-celled organisms, such as the bacteria *Brevibacillus borstelensis* and *Lactococcus lactis*—it has rarely been observed among eukaryotes (multicellular organisms). However, new studies suggest that horizontal gene transfer is more common in eukaryotes than originally thought.

6  Mark for Review 

Which choice best states the function of the underlined sentence in the text as a whole?

- (A) It indicates a distinction between the mechanics of two kinds of biological processes.
- (B) It contrasts the frequency with which a biological phenomenon has been detected in two categories of organisms.
- (C) It explains why a common perception of a biological process is flawed.
- (D) It argues that two biological phenomena are more similar than they may initially appear to be.

Text 1

In separate studies, Stephen Meding and Robert J. Zasoski and Xinhua He and colleagues examined whether plants transfer nutrients to one another using a common mycorrhizal network (CMN)—a lattice of fungal strands in the soil. Meding and Zasoski excluded all pathways other than the CMN by using barriers to keep the plants' root systems separate while allowing mycorrhizal strands through—a crucial step He and colleagues' study did not take.

Text 2

Meding and Zasoski took the necessary precaution of separating the plants' root systems (thereby excluding root-to-root transmission). However, any barrier used must allow the thread-like hyphae of a CMN to pass through, and this permeability would also allow liquids through. Thus, the researchers' experimental design cannot ensure that any nutrient transfer observed can be attributed to a CMN and not to some other pathway.

7

Mark for Review



Based on the texts, the author of Text 1 and the author of Text 2 would most likely agree with which statement?

- (A) The barriers used in Meding and Zasoski's study effectively excluded root-to-root transmission of nutrients.
- (B) A barrier that is impervious to both roots and fungal strands is necessary to evaluate nutrient transfer via a CMN.
- (C) Excluding root-to-root transfer of nutrients between plants is sufficient to ensure that any observed nutrient transfer must involve a CMN.
- (D) He and colleagues' study did not find convincing evidence of nutrient transfer between individual plants.

Optimal foraging theory (OFT) holds that animals' foraging behaviors reflect cost-benefit trade-offs that vary by species and with dynamic ecological circumstances. One such circumstance is lunar intensity, which Joel Brown and colleagues found to be negatively associated with foraging by Arizona pocket mice but Deborah J. Curtis and colleagues found to be positively associated with foraging by mongoose lemurs. This discrepancy is explicable in terms of OFT: the lemurs' greater reliance on vision means that higher lunar intensity benefits them more than it benefits the mice.

8

Mark for Review



Which choice best describes the finding made by Curtis and colleagues, as presented in the text?

- (A) Increased lunar intensity is more beneficial for mongoose lemurs than it is for Arizona pocket mice.
- (B) As lunar intensity increases, mongoose lemurs increase their foraging activity.
- (C) During periods of high lunar intensity, mongoose lemurs increase their reliance on vision.
- (D) As lunar intensity increases, Arizona pocket mice reduce their foraging activity.

Biologist Grace Herzl and colleagues conducted a study of how butterfly color and weather conditions relate to butterfly behavior, which wouldn't have been possible without data gathered by students and other amateur science enthusiasts in the community. Considering over three years' worth of data, the researchers found that white butterflies were observed on green flowers more often than any other butterflies were, and that butterflies were observed to feed more often on cloudy days than on other days.

9

Mark for Review



According to the text, which factors seemed to be linked to the behavior of butterflies in Grace Herzl and colleagues' study?

- A Weather conditions but not butterfly color
- B Butterfly color but not weather conditions
- C Neither butterfly color nor weather conditions
- D Both butterfly color and weather conditions

The bird species *Myiobius barbatus* (the bearded flycatcher) shares some territory in French Guiana with *Thamnomanes caesius* (the cinereous antshrike), which emits a loud alarm call when it detects predators. Biologist Ari Martinez and colleagues recorded *T. caesius* alarm calls and played them in the vicinity of wild *M. barbatus*. Finding that the birds often froze in place or scattered into vegetation upon hearing the calls, they concluded that *M. barbatus* associates *T. caesius* alarm calls with danger.

10

Mark for Review

Which finding, if true, would most directly support Martinez and colleagues' conclusion?

- (A) Other bird species than *M. barbatus* also showed a tendency to freeze in place or scatter into vegetation when Martinez and colleagues played *T. caesius* alarm calls.
- (B) Martinez and colleagues played alarm calls from different *T. caesius* individuals and observed no significant variation in the responses of *M. barbatus*.
- (C) In some instances, *M. barbatus* froze in place or scattered into vegetation when Martinez and colleagues approached but before they began playing sounds.
- (D) When Martinez and colleagues played control sounds of random noise in the vicinity of *M. barbatus*, the birds displayed no reaction.

Studies of Cougar Population Density

Study authors	Location	Methods	Minimum density (cougars per 100 square kilometers)	Maximum density (cougars per 100 square kilometers)	Density range (difference between minimum and maximum density, cougars per 100 square kilometers)
P. Ian Ross and Martin G. Jalkotzy	Alberta (Canada)	radio-collar tracking	2.70	4.70	2.00
Gregory A. Davidson et al.	Oregon (United States)	scat-detecting dogs	2.31	5.50	3.19
David M. Choate et al.	Utah (United States)	helicopter surveying	5.59	10.24	4.65
Rahel Sollmann et al.	Florida (United States)	infrared camera trapping, GPS tracking of collars	1.46	1.51	0.05

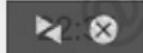
Researchers have used several different methods to determine the population density of cougars (*Puma concolor*). A student claims that the use of scat-detecting dogs produces the most precise results, with the smallest difference between minimum and maximum densities.

The screenshot shows a digital worksheet interface. At the top right, there is a clock (20:37), battery level (85%), and a toolbar with icons for highlights, notes, and more. Below the toolbar, a horizontal dashed line separates the header from the main content area. The main content area contains a table with six columns: Study authors, Location, Methods, Minimum density (cougars per 100 square kilometers), Maximum density (cougars per 100 square kilometers), and Density range (difference between minimum and maximum density, cougars per 100 square kilometers). Four rows of data are shown for different studies. To the right of the table, a question is displayed:

Which choice best describes data from the table that weaken the student's claim?

Below the question are four multiple-choice options labeled A through D:

- (A) David M. Choate et al. reported a density range of 4.65 individuals per 100 square kilometers despite the use of helicopter surveying.
- (B) Rahel Sollmann et al. reported a density range that was substantially smaller than that reported by David M. Choate et al.
- (C) Gregory A. Davidson et al. reported a density range greater than that reported by some studies that used other methods.
- (D) Gregory A. Davidson et al. reported a maximum density of 5.50 individuals per 100 square kilometers, which differed from that reported by some studies that used other methods.



Hide

The linguistic niche hypothesis (LNH) posits that the exotericity of languages (how prevalent non-native speakers are) and grammatical complexity are inversely related, which the LNH ascribes to attrition of complex grammatical rules as more non-native speakers adopt the language but fail to acquire those rules. Focusing on two characteristics that are positive indices of grammatical complexity, fusion (when new phonemes arise from the merger of previously distinct ones) and informativity (languages' capacity for meaningful variation), Olena Shcherbakova and colleagues conducted a quantitative analysis for more than 1,300 languages and claim the outcome is inconsistent with the LNH.

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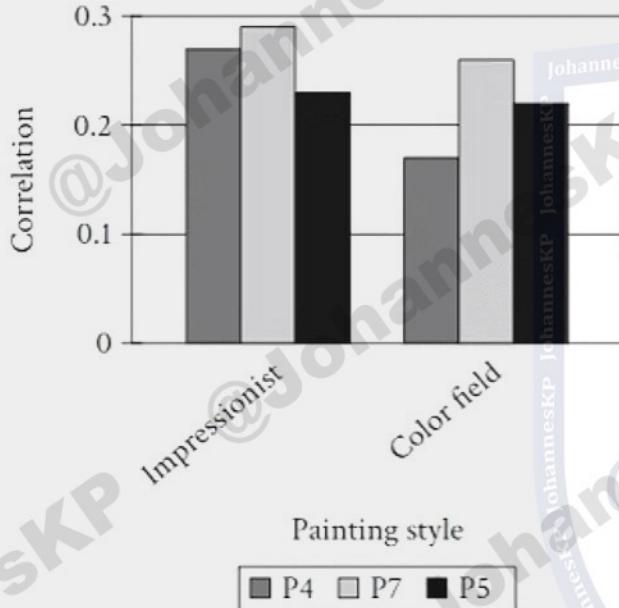


Mark for Review



Which finding, if true, would most directly support Shcherbakova and colleagues' claim?

- (A) Shcherbakova and colleagues' analysis showed a slightly positive correlation between grammatical complexity and fusion.
- (B) Shcherbakova and colleagues' analysis showed a slightly negative correlation between grammatical complexity and exotericity.
- (C) Shcherbakova and colleagues' analysis showed a slightly positive correlation between fusion and exotericity and between informativity and exotericity.
- (D) Shcherbakova and colleagues' analysis showed a slightly negative correlation between grammatical complexity and fusion and between grammatical complexity and informativity.



Neuroscientist Kiyohito Igaya and colleagues developed a computational model to predict how much a person will enjoy a particular work of art on a scale from 1 (not at all) to 4 (very much). They then recruited participants to use the same scale to rate several sets of paintings in various styles and calculated the correlation between the ratings predicted by the model and those reported by the participants. Assuming participant P7 gave equal ratings to the impressionist and color-field paintings, the data in the graph suggest that the model predicted that _____.

13

Mark for Review

Which choice most effectively uses data from the graph to complete the statement?

- (A) P7's ratings for impressionist and color-field paintings would differ from one another.
- (B) P7 would derive more aesthetic pleasure from impressionist paintings than from color-field paintings.
- (C) P7's ratings for impressionist and color-field paintings would equal one another.
- (D) P7 would derive less aesthetic pleasure from impressionist paintings than from color-field paintings.



Hide

Arthurian legends (tales related to the character of King Arthur) derive from many often contradictory sources, such as *Annales Cambriae*, composed around 970, and *Tom a Lincoln* from around 1607. Sir Thomas Malory's 15th-century text *Le Morte d'Arthur* was an attempt to compile these stories into a coherent narrative. Many of Malory's sources derive from Geoffrey of Monmouth's *History of the Kings of Britain*, written in the 1130s. While neither *History* nor any works that predate it mention Arthur's famous Round Table at which his knights assembled, *Le Morte d'Arthur* does, suggesting that _____.

14

Mark for Review

ABC

Which choice most logically completes the text?

- (A) when a version of an Arthurian legend contradicted the version in *History*, Malory preferred to include Geoffrey of Monmouth's version in *Le Morte d'Arthur*.
- (B) *Le Morte d'Arthur* is more historically accurate than *History*, because *Tom a Lincoln* had not been written when Geoffrey of Monmouth was writing his work.
- (C) Geoffrey of Monmouth's accounts of Arthurian legends in *History* are more similar overall in content to the accounts in *Tom a Lincoln* than they are to the accounts in *Le Morte d'Arthur*.
- (D) Malory encountered the Round Table in a source that Geoffrey of Monmouth was not familiar with when writing his *History*.



Prolonged exposure to anthropogenic noise (sounds from human sources like traffic or mining) can affect animals, as Kirsty Elizabeth McLaughlin and Hansjoerg P. Kunc found in a 2015 study of zebra cichlids. Researchers conducted a meta-analysis of studies of how such noise affects animals and found that, for every study, relevant traits or behaviors of the animals were observably different between the exposed group and the otherwise similar but unexposed group. Although, on average, studies of fish showed larger differences than studies of birds did, for every class of animals examined, there were individual studies showing differences well above the average for fish. Therefore, the results of the meta-analysis suggest that _____.

15

Mark for Review

APC

Which choice most logically completes the text?

- (A) the studies in the meta-analysis that examined fish were more likely than those that examined birds to specify whether the observed effects were detrimental.
- (B) the difference found in the study conducted by Kirsty Elizabeth McLaughlin and Hansjoerg P. Kunc was likely larger than the average difference for studies of zebra cichlids included in the meta-analysis.
- (C) some studies of birds found larger effects of exposure to anthropogenic noise than some studies of fish did.
- (D) the differences that studies attribute to exposure to anthropogenic noise are likely to be more pronounced for birds than they are for fish.



Hide



Highlights & Notes

The term "retroflex" derives from Latin and means "bent back," an apt descriptor for the branch of consonants—retroflex consonants—pronounced with the tongue curling up and back in the mouth. In many languages, including English, these consonants are ____ in some dialects of Mandarin, however, four such consonants ("ch," "sh," "zh," and "r") are relatively common.

16

Mark for Review

Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) rare,
- (B) rare
- (C) rare:
- (D) rare and

Along with carbon dioxide concentration and temperature, light intensity affects the chemical reaction rate of ____ as light intensity increases, so does the rate at which the reactants (water and carbon dioxide) are converted into their products (glucose and oxygen).

17 Mark for Review

Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) photosynthesis
- (B) photosynthesis:
- (C) photosynthesis and
- (D) photosynthesis,



Hide

The fungus *Scleroderma citrinum*, commonly referred to as common earthball, is known to establish ectomycorrhizal bonds with certain oak tree species; in many cases, such symbiotic relationships, wherein fungal hyphae make contact with the oak's root system, _____ extensive networks, which can be used to transport nutrients between trees.

18

Mark for Review

ABC

Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) to form
- (B) having formed
- (C) form
- (D) forming



Though he would go on to work with many respected musicians, including Paul Hanson on his album *Frolic in the Land of Plenty*, American ____ may be best known for his time with Sugar Hill Records, where he helped craft the sound of early hip-hop music.

19

Mark for Review



Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) drummer, Dennis Chambers
- (B) drummer Dennis Chambers,
- (C) drummer Dennis Chambers
- (D) drummer, Dennis Chambers,

Gretchen Legler's short essay on "sound," a word referring to a large inlet or channel of a sea or ocean, is included in the collection *Home Ground: A Guide to the American Landscape*. The book wasn't written solely by _____ other authors, such as Stephen Graham Jones and Barry Lopez, also contributed essays.

20

Mark for Review



Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) Legler, however,
- (B) Legler; however,
- (C) Legler. However,
- (D) Legler, however;

The Organisation for Economic Co-operation and Development (OECD) tracks comparative price list data for its thirty-eight member countries. According to this data, in July 2021, a “basket” of goods and services priced at 100 US dollars (USD) in the United States would have cost 66 USD in fellow OECD member

21

Mark for Review



Which choice completes the text so that it conforms to the conventions of Standard English?

- (A) nation Latvia.
- (B) nation: Latvia.
- (C) nation, Latvia.
- (D) nation—Latvia.



Hide

In his painting *At the Cycle-Race Track*, Jean Metzinger aims to depict a bike race in four-dimensional space. Of course, Metzinger's painting doesn't technically represent a fourth dimension; humans can only see in three dimensions. _____ by depicting the race through multiple, simultaneous perspectives, Metzinger offers a fascinating glimpse at what this other universe might look like.

22

Mark for Review



Which choice completes the text with the most logical transition?

- (A) For example,
- (B) That said,
- (C) In other words,
- (D) Moreover,

In 2015, geologist Peter Rogerson recalculated the geographic center of Nebraska, which had previously been determined in 1920 by the US Geological Survey (USGS). The USGS, Rogerson contended, had omitted important considerations, not least the curvature of the earth. ____ the state's USGS-determined center—a point 10 miles northwest of the municipality of Broken Bow—was inaccurate.

23 Mark for Review

Which choice completes the text with the most logical transition?

- (A) Next,
- (B) That being said,
- (C) Hence,
- (D) However,

On August 5, 1938, aviator Douglas Corrigan received a ticker-tape parade in New York City in recognition of his transatlantic flight. Of the 206 ticker-tape parades held between 1886 and 2022, a number were for achievements in aviation. _____ Corrigan's parade was just one of 16 honoring pilots.

24 Mark for Review

Which choice completes the text with the most logical transition?

- (A) In addition,
- (B) Therefore,
- (C) Indeed,
- (D) Nevertheless,

While researching a topic, a student has taken the following notes:

- The Bauhaus was an influential German art and design school founded in 1919 by Walter Gropius.
- Gropius was the school's director from 1919 to 1928.
- Hannes Meyer was its director from 1928 to 1930.
- Ludwig Mies van der Rohe was its director from 1930 to 1933.
- Stefan Wolpe was a composer who began attending the Bauhaus in 1923.
- Iwao Yamawaki was a photographer and architect who began attending the Bauhaus in 1930.

25

Mark for Review



The student wants to emphasize the order in which the two students attended the Bauhaus. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- (A) Walter Gropius founded the Bauhaus in 1919 and acted as its director until 1928, at which point Hannes Meyer succeeded him in the role.
- (B) Stefan Wolpe and Iwao Yamawaki were both Bauhaus students, but Wolpe, who began attending in 1923, preceded Yamawaki.
- (C) Founded in 1919, the Bauhaus was a German art and design school whose past students include Stefan Wolpe and Iwao Yamawaki.
- (D) The Bauhaus was founded in 1919, and Iwao Yamawaki began attending in 1930.

Directions ▾

While researching a topic, a student has taken the following notes:

- Generally, an object will heat up when twisted.
- The twisting of an object is known as torsion.
- A 2019 study led by Zunfeng Liu and Ray Baughman tested the torsional heating of various fibers.
- When a 1-millimeter-thick sample of dimethicone fiber was twisted, its average surface temperature increased by 1.8°C.
- When a 4-millimeter-thick sample of styrene-ethylene-butylene-styrene (SEBS) rubber fiber was twisted, its average surface temperature increased by 3.5°C.

26

Mark for Review



The student wants to contrast the two samples. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- (A) The SEBS rubber sample used in the 2019 study was thicker than the dimethicone sample.
- (B) Twisting an object will generally cause its temperature to increase, a process known as torsional heating.
- (C) When the fibers were twisted as part of the 2019 study, the surface temperature of both samples increased.
- (D) In 2019, researchers studied the effect of torsional heating on various fibers, including samples of SEBS rubber and dimethicone.

While researching a topic, a student has taken the following notes:

- Element abundance is a relative measure of the amount of a chemical element in a given environment.
- Abundance can be expressed as a mass fraction.
- A mass fraction is the ratio of the total mass of an element to the combined mass of all elements in a given environment.
- The mass fraction of iron (Fe) on Earth is 319,000 parts per million (ppm).
- The mass fraction of strontium (Sr) on Earth is 13 ppm.

27

Mark for Review



The student wants to specify the total mass of Earth's iron relative to that of all elements. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- (A) The mass fraction of iron on Earth is 319,000 ppm.
- (B) Iron's mass relative to the combined mass of all elements on Earth is 13 ppm.
- (C) Iron's abundance can be expressed by a mass fraction, a measure of the element's mass relative to that of all elements on Earth.
- (D) Iron's abundance on Earth is greater than strontium's, as reflected by iron's higher mass fraction.