

**Test:** 26SM-TEST09

**Module:** 26SM-T09-RW-M01

Pauline Kael's *New Yorker* review of Robert Altman's *Nashville* surprised many readers, who did not expect her to \_\_\_\_\_ a film whose sprawling, plotless structure had baffled most critics. Her ecstatic assessment — calling it 'a complete success' — helped establish the film as a landmark of American cinema.

1

Which choice completes the text with the most logical and precise word or phrase?  
(답 : C)

- (A) condemn
- (B) critique
- (C) commend
- (D) dismiss

\_\_\_\_\_ fieldwork in the Hell Creek Formation of Montana, conducted by paleontologists from the Museum of the Rockies and other institutions throughout the late twentieth century, has produced more than fifty *Tyrannosaurus rex* specimens — the largest collection of any single dinosaur species in the global fossil record.

2

Which choice completes the text with the most logical and precise word or phrase?  
(답 : B)

- (A) Sporadic
- (B) Extensive
- (C) Pictorial
- (D) Amateur

Although Johann Wolfgang von Goethe is studied critically today, he occupied a position of near-absolute \_\_\_\_\_ in nineteenth-century German literary culture — his works treated not as texts to be questioned but as monuments to national genius. Later critics were among the first to apply to Goethe the same analytical scrutiny they brought to his contemporaries.

3

Which choice completes the text with the most logical and precise word or phrase?  
(답 : A)

(A) veneration

(B) notoriety

(C) contention

(D) ambiguity

The following text is from Dinah Craik's 1856 novel *John Halifax, Gentleman*.

Astonished—nay, somewhat more than astonished—the young gentlewoman drew back a little. "I do not quite understand you." "Let me explain, then;" and her involuntary gesture seeming to have brought back all honest dignity and manly pride, he faced her, once more himself. "It is right, Miss March, that you should know who and what I am, to whom you are giving the honour of your kindness. Perhaps you ought to have known before; but here at Enderley we seemed to be equals—friends." "I have indeed felt it so."

4

As used in the text, what does the word "faced" most nearly mean?  
(답 : C)

(A) Resembled

(B) Pursued

(C) Addressed

(D) Defied

The following text is from Thomas McGuane's 2025 novel *Slant Six*.

It was a Friday at the start of summer when Drew stopped at Ace to buy Sheetrock screws and spackling. He had to fix the bathroom wall where he'd lost his temper after a conversation with Lucy about her mother. In the same aisle, he spotted his client Mike Khoury angrily fanning a wheel of color chips. "This bloody card lists twenty-seven whites!" he shouted at no one in particular. Mike was thickly built, a windbreaker stretched over his chest, a 49ers ball cap atop his head. He was an eye surgeon.

5

Which choice best describes the function of the underlined sentence in the text as a whole?  
(답 : B)

- (A) It identifies Khoury's occupation, providing context for his presence in the store.
- (B) It introduces an ironic contrast between Khoury's anger about color distinctions and a visually precise profession.
- (C) It explains why Khoury is knowledgeable about color and design.
- (D) It complicates the portrayal of Khoury by revealing an unexpected flaw.

The following text is from George Moses Horton's 1829 poem "On Liberty and Slavery".

Come, Liberty, thou cheerful sound,  
Roll through my ravished ears!  
Come, let my grief in joys be drowned,  
And drive away my fears.  
Say unto foul oppression, Cease:  
Ye tyrants rage no more,  
And let the joyful trump of peace,  
Now bid the vassal soar.  
Soar on the pinions of that dove  
Which long has cooed for thee,  
And breathed her notes from Afric's grove,  
The sound of Liberty.

6

Which choice best states the main purpose of the text?  
(답 : B)

- (A) To celebrate a moment of liberation already achieved by the speaker
- (B) To convey the speaker's longing for liberty through a sequence of urgent imperatives
- (C) To argue that oppression must end before enslaved people can experience freedom
- (D) To describe the dove that has long called for liberty from Africa's groves

### Text 1

In a 2004 review, comparative psychologists Nathan Emery and Nicola Clayton synthesized work on corvids—crows, jays, and ravens—showing that several species solve novel mechanical puzzles, manufacture and modify simple tools, and remember the locations of thousands of cached food items. The authors argued that these abilities reflect a flexible cognitive toolkit shaped by ecological pressures rather than a uniquely primate evolutionary trajectory.

### Text 2

Field and laboratory studies of chimpanzees in West African forest sites have documented the use of stone hammers and anvils to crack hard-shelled nuts, with techniques transmitted across generations within local groups. The behavior shows long planning sequences and selective tool selection. Researchers describe chimpanzee tool use as evidence that flexible problem-solving evolves in lineages that face complex foraging tasks.

Many recent illustrations of *Tyrannosaurus rex* depict the animal sporting a downy coat of feathers, partly because smaller, earlier tyrannosauroids such as *Yutyrannus* preserve clear filamentous plumage. In a 2017 paper in *Biology Letters*, however, paleontologist Phil Bell of the University of New England in Australia and his colleagues reported that the few known skin impressions from *T. rex* and its close relatives—including *Albertosaurus*, *Gorgosaurus*, and *Tarbosaurus*—show small reptilian scales rather than feather attachments. The authors proposed that as tyrannosaurs evolved gigantic body sizes, they may have shed their ancestors' feather coverings, perhaps because retaining heat became more of a problem than conserving it. The fossil record currently contains no skin impressions of an adult *T. rex* preserving body plumage.

7

Based on the texts, the authors of Text 1 and the researchers in Text 2 would most likely agree with which statement?  
(답 : D)

- (A) Flexible problem-solving in animals has been shown to require essentially the same neural structures regardless of the lineage in which it appears.
- (B) Flexible problem-solving in birds and primates is best understood as a series of skills passed down by social learning within local groups.
- (C) Flexible problem-solving abilities in chimpanzees are typically more sophisticated than those observed in corvid species and other non-mammalian groups.
- (D) Flexible problem-solving may emerge in animal lineages whose ecological challenges favor it, rather than being confined to a single evolutionary line.

8

Based on the text, what does the evidence most strongly suggest about adult *Tyrannosaurus rex*?  
(답 : D)

- (A) Its body was almost certainly covered in dense feathers similar to those of its smaller relative *Yutyrannus*.
- (B) Its skin contained both scales and feathers in roughly equal proportions across most of the body.
- (C) Its hatchlings probably retained more scales than the adults did.
- (D) Its outer body surface was most likely scaly, with no fossil evidence of full feather coverage.

In May 2024, two independent research teams — one led by Shishir Dholakia at the University of Southern Queensland and another by Masayuki Kuzuhara at the National Astronomical Observatory of Japan — announced the discovery of Gliese 12 b, a planet roughly the same size as Earth orbiting a cool red dwarf star about 40 light-years away. The planet receives slightly more starlight than Earth does and has an estimated surface temperature of around 42°C, assuming it has little or no atmosphere. Unlike Venus, which is similarly sized, Gliese 12 b does not appear to be enveloped in a thick, heat-trapping atmosphere. Both teams identified it as a high-priority target for the James Webb Space Telescope, which could determine whether the planet retains any atmosphere at all.

9

Which choice best states the main idea of the text?  
(답 : C)

A

Gliese 12 b has been confirmed to harbor a thick, Venus-like atmosphere, ruling it out as a habitable-zone candidate.

B

Gliese 12 b orbits a red dwarf too magnetically active to allow any secondary atmosphere to persist on the planet.

C

Gliese 12 b is a potentially temperate, Earth-sized planet that both discovery teams flagged as a top JWST atmospheric target.

D

Gliese 12 b is notable primarily for being the same size as Earth and orbiting a star just 40 light-years away.

*Songs of Innocence and of Experience* is an 1820 poetry collection by William Blake. Blake suggests that the speaker of one poem encounters unmistakable signs of human misery and oppression at every turn in the city's streets:

10

Which quotation from *Songs of Innocence and of Experience* most effectively illustrates the claim?  
(답 : C)

A

(from "The Tiger") "Tiger, tiger, burning bright / In the forests of the night, / What immortal hand or eye / Could frame thy fearful symmetry?"

B

(from "The Lamb") "Little lamb, who made thee? / Does thou know who made thee, / Gave thee life, and bid thee feed / By the stream and o'er the mead"

C

(from "London") "I wander through each chartered street, / Near where the chartered Thames does flow, / A mark in every face I meet, / Marks of weakness, marks of woe."

D

(from "Nurse's Song") "When voices of children are heard on the green, / And laughing is heard on the hill, / My heart is at rest within my breast, / And everything else is still."

A student is writing an essay on early twentieth-century Latin American public art. A journalist covering a centennial retrospective on the muralist movement argues that the Mexican muralists—Rivera, Orozco, and Siqueiros—established public art as a vehicle for explicit political advocacy rather than purely aesthetic display.

11

Which quotation from a work by a historian would most effectively support the journalist's claim?

(답 : B)

(A) “Pre-Columbian motifs appear throughout the murals Rivera completed for the National Palace in Mexico City, reflecting his deep engagement with indigenous visual traditions.”

(B) “Rivera, Orozco, and Siqueiros conceived their public murals as instruments of political mobilization, deliberately displacing the decorative function art had served.”

(C) “Critical reception of the Mexican muralist movement in the United States was sharply divided, with some reviewers praising its formal ambition and others condemning its explicit ideological content.”

(D) “The influence of the Mexican muralists on subsequent generations of Latin American painters is evident in the politically charged imagery that defined the continent's public art well into the 1970s.”

The African turquoise killifish has a natural lifespan of only a few months, making it convenient for studying the behavioral signatures of aging. Continuously videotaping 81 killifish over their entire lives, neuroscientists Claire Bedbrook and Ravi Nath identified 100 distinct "behavioral syllables"—basic units of movement and rest—and tracked how each fish's repertoire shifted with age. Strikingly, even fish that would later prove to have very different lifespans appeared similar at young ages. Bedbrook and Nath have proposed that subtle features of an individual fish's daily behavior in midlife can be used to predict, with substantial accuracy, how long the fish will go on to live.

12

Which finding from the team's analysis, if true, would most directly support Bedbrook and Nath's proposal?

(답 : A)

(A) A computational model trained on each fish's behavioral data from a few days in midlife predicted that fish's eventual age at death with substantial accuracy.

(B) A computational model trained on each fish's behavioral data from a few days in midlife showed no useful relationship to that fish's eventual age at death.

(C) All 81 fish in the study showed clear shifts in behavioral syllables during the final week of life, with reduced activity and disrupted sleep patterns.

(D) All 81 fish studied showed substantial behavioral changes between their early and late midlife periods, including reduced exploratory movements.

Kate Axelrod's 2015 debut novel *The Law of Loving Others* follows a college freshman whose mother begins to show signs of severe mental illness. Although the central character is in her late teens, much of the book deals with adult themes—aging parents, long marriages, professional ambition—that publishers typically associate with novels written for adult readers. The book was nonetheless marketed as young adult fiction. Reviewers at outlets that regularly cover serious literary fiction for adults overlooked it, and Axelrod has since suggested that the choice of label may have \_\_\_\_\_

13

Which choice most logically completes the text?

(답 : A)

(A) discouraged some critics who cover adult fiction from giving the novel the kind of attention it might otherwise have received

(B) made the novel difficult for teenage readers to follow because of its focus on aging parents and long marriages

(C) prevented Axelrod from writing further novels aimed at the same young adult audience the book had been marketed to

(D) prompted reviewers of young adult fiction to praise the book more highly than reviewers of adult fiction did

The Kasimov Twist is a competitive diving maneuver popularized in 2003 by the Russian athlete Dmitri Kasimov. Far more demanding than the dives it replaced, the Twist, which packs three rotations into a single descent, was devised to reward economy of \_\_\_\_ both knees against the chest, the diver spins twice before the apex, unfurling only meters above the water.

14

Which choice completes the text so that it conforms to the conventions of Standard English?  
(답 : D)

(A) motion, after tucking

(B) motion after tucking

(C) motion, tucking

(D) motion: tucking

Few researchers outside her field recognize the name Dr. Amara Singh, who has spent her career documenting languages spoken by fewer than a thousand people. Her colleagues nonetheless regard her latest publication *The Tolaki Verb and Its Vanishing World* as one of modern linguistics' most ambitious \_\_\_\_ a complete grammar of the nearly extinct Tolaki dialect.

15

Which choice completes the text so that it conforms to the conventions of Standard English?  
(답 : B)

(A) undertakings

(B) undertakings:

(C) undertakings;

(D) undertakings,

The Brevoort Type Foundry, which has cut metal type for university presses since 1921 and now licenses its fonts to publishers on four continents, built its reputation on a single, unforgiving \_\_\_\_ in its Antwerp workshop, working from drawings the firm's founder had sketched decades earlier, had cut every glyph by hand, no typeface left the building on Sint-Pietersstraat until it had survived a full decade of trial printings.

16

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

(답 : D)

- (A) standard, the punchcutters
- (B) standard; the punchcutters
- (C) standard, once the punchcutters
- (D) standard: once the punchcutters

When enrollment at Briarwood College dropped by nearly 20 percent between 2004 and 2007, the board appointed sociologist Rina Chawla to investigate the causes. Chawla produced a report that \_\_\_\_ other contributing factors, outdated degree offerings, declining campus resources, poor alumni engagement, and limited financial aid options.

17

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

(답 : A)

- (A) identified, among
- (B) identified: among
- (C) identified—among
- (D) identified; among

Before the 1988 premiere of *The Harbor Bell*, playwright Lena Orvik revised several scenes for the Northgate Playhouse. In the final version, the youngest sailor \_\_\_\_\_ the closing monologue, a change that shifted the play's emotional focus away from the captain. Reviewers in the Bergen Arts Journal devoted nearly 300 words to that altered ending.

18

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

(답 : B)

(A) deliver

(B) delivered

(C) has delivered

(D) would have delivered

That a single copy of the 1493 *Nuremberg Chronicle* contains hand-colored city views \_\_\_\_\_ it especially valuable to book historians. The sequence of pigments used in the Prague edition shows how local workshops adapted printed illustrations for wealthy patrons, and a 2018 pigment analysis at the National Library of the Czech Republic revealed repeated layers of azurite and vermilion on forty-three of the volume's illustrated pages.

19

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

(답 : B)

(A) make

(B) makes

(C) have made

(D) is made

A 2023 United Nations report warned that if current extraction rates continued, global reserves of phosphorus, an element essential to agricultural fertilizers, \_\_\_\_\_ critically depleted within 80 years. Morocco and Western Sahara hold roughly seventy percent of the world's remaining deposits, a concentration that has drawn increasing geopolitical attention since 2015.

20

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

(답 : C)

(A) became

(B) become

(C) would become

(D) had become

In the Adria String Quartet's teaching manual, a short sidebar \_\_\_\_\_ why repeated open-string notes help beginning violinists maintain tempo. The explanation links the exercise to muscle memory rather than musical expression, making the point accessible to students without advanced theory training. The 2022 edition includes the same sidebar beside a 16-measure practice study.

21

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

(답 : C)

(A) explained

(B) has explained

(C) explains

(D) would explain

Champagne owes its bubbles to a second fermentation that takes place after the wine is already sealed inside the bottle. Trapped with nowhere to escape, the carbon dioxide produced by the yeast dissolves into the wine under pressures that can reach six times atmospheric pressure. \_\_\_\_ an improperly secured cork can launch from a bottle at speeds exceeding 80 kilometers per hour, fast enough to cause serious eye injuries.

22

Which choice completes the text with the most logical transition?

(답 : A)

☒ A As a result,

☐ B However,

☐ C Beforehand,

☐ D Granted,

A tatami mat is not a flexible unit of measurement. In traditional Japanese construction, room sizes are still quoted in mats, and a standard mat in the Kyoto region measures slightly larger than one in Tokyo, a discrepancy that has persisted for centuries. \_\_\_\_ a carpenter pricing a four-and-a-half-mat tea room expects the proportions to follow a fixed ratio, regardless of which regional standard the client happens to prefer.

23

Which choice completes the text with the most logical transition?

(답 : A)

☐ A Even so,

☐ B For example,

☒ C As a result,

☐ D To this end,

Teaching at the University of Oxford is documented as early as 1096, making the institution older than the Aztec Empire by more than three centuries. \_\_\_\_ Oxford was already a functioning university when the foundations of Notre-Dame de Paris were being laid and when the rise of Cusco as the later Inca capital was still centuries away.

24

Which choice completes the text with the most logical transition?

(답 : B)

Ⓐ Conversely,

Ⓑ In fact,

Ⓒ Meanwhile,

Ⓓ Admittedly,

Languages distribute information very differently across a sentence. In Turkish, a single heavily suffixed word can carry what English would spread across an entire clause, packing tense, person, and negation onto one root. \_\_\_\_ Mandarin relies on short, uninflected words whose relationships are signaled almost entirely by their order and by context rather than by any change in the words themselves.

25

Which choice completes the text with the most logical transition?

(답 : A)

Ⓐ Conversely,

Ⓑ Likewise,

Ⓒ Therefore,

Ⓓ In fact,

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

- In the 1790s, the engineer Claude Chappe built a network of semaphore towers across France to relay messages quickly over long distances.
- Each tower was topped with a pair of movable wooden arms that could be set into 196 distinct configurations, each representing a code.
- Operators in each tower used telescopes to read the arm positions of the next tower in the line and then copied them.
- In this way, a message was passed from tower to tower across the country far faster than a rider on horseback.
- A signal could travel from Paris to Lille, about 230 kilometers, in a matter of minutes.

26

The student wants to explain how Chappe's semaphore network relayed messages across France. Which choice most effectively uses relevant information from the notes to accomplish this goal?

(답 : C)

(A) In the 1790s, Claude Chappe built a network of semaphore towers across France to relay messages over long distances.

(B) A signal could travel from Paris to Lille, about 230 kilometers, in a matter of minutes.

(C) Operators set a pair of movable wooden arms into coded configurations, and operators in the next tower read those positions through telescopes and copied them, passing a message from tower to tower across the country.

(D) Each semaphore tower was topped with movable wooden arms capable of forming 196 coded configurations, allowing Chappe's system to represent a wide range of messages.

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

- Sea otters use rocks as tools, balancing a stone on their chest to crack open the shells of clams and mussels.
- Chimpanzees strip the leaves from twigs and insert the twigs into termite mounds to extract termites to eat.
- Egyptian vultures pick up stones in their beaks and throw them at ostrich eggs to break the thick shells.

27

The student wants to highlight the similarity among the feeding behaviors of sea otters, chimpanzees, and Egyptian vultures. Which choice most effectively uses relevant information from the notes to accomplish this goal?  
(답 : B)

(A) Sea otters crack open clams and mussels with rocks, while Egyptian vultures use stones to break open ostrich eggs.

(B) Sea otters, chimpanzees, and Egyptian vultures all use objects from their environments to obtain food that would otherwise be difficult to access.

(C) Chimpanzees use modified twigs to extract termites from mounds, whereas sea otters balance stones on their chests to crack open shellfish.

(D) Egyptian vultures throw stones at ostrich eggs, a behavior that allows them to break shells too thick to open with their beaks alone.

**Module: 26SM-T09-RW-M2L**

Sociologist Robert K. Merton is widely recognized for his foundational work on the sociology of science. His \_\_\_\_\_ contribution to everyday academic vocabulary, by contrast, is less frequently noted—even though terms he coined, including 'self-fulfilling prophecy,' 'role model,' and 'unintended consequences,' now appear routinely in fields ranging from economics to public health.

1

Which choice completes the text with the most logical and precise word or phrase?  
(답 : D)

(A) niche

(B) derivative

(C) inadvertent

(D) outsized

The following text is from E. Nesbit's 1902 novel *Five Children and It*.

Trees are all different, as you know, and I am sure some tiresome person must have told you that there are no two blades of grass exactly alike. But in streets, where the blades of grass don't grow, everything is like everything else. This is why so many children who live in towns are so extremely naughty. They do not know what is the matter with them, and no more do their fathers and mothers, aunts, uncles, cousins, tutors, governesses, and nurses; but I know. And so do you now. Children in the country are naughty sometimes, too, but that is for quite different reasons.

2

As used in the text, what does the word "matter" most nearly mean?

(답 : C)

(A) Substance

(B) Subject

(C) Trouble

(D) Business

In 1742, mathematician Christian Goldbach proposed — in a letter to Leonhard Euler — that every even integer greater than 2 is the sum of two prime numbers. This claim, now a celebrated \_\_\_\_\_ in number theory, has been confirmed computationally for every even number up to roughly four quintillion, yet a rigorous proof remains elusive.

3

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

(답 : B)

(A) refutation

(B) conjecture

(C) theorem

(D) assumption

Zora Neale Hurston's 1937 novel *Their Eyes Were Watching God* received mixed and largely negative reviews upon publication, with some critics dismissing it as overly sentimental. It is now widely \_\_\_\_\_, however, appearing on university syllabi across the country and selling hundreds of thousands of copies annually.

4

Which choice completes the text with the most logical and precise word or phrase?  
(답 : D)

(A) documented

(B) scrutinized

(C) contested

(D) celebrated

In a landmark 2003 study, economist Marc Melitz challenged a longstanding assumption of international-trade theory. Whereas earlier models had treated firms within an industry as essentially uniform in productivity and behavior, Melitz showed that they are in fact remarkably \_\_\_\_\_: only the most productive establishments select into export markets, while less productive ones serve only domestic customers.

5

Which choice completes the text with the most logical and precise word or phrase?  
(답 : D)

(A) interconnected

(B) autonomous

(C) adaptable

(D) heterogeneous

The Hawaiian silversword alliance comprises roughly thirty species of Asteraceae (the daisy family) so morphologically disparate that early botanists assigned them to unrelated groups: cushion plants clinging to alpine cinder, woody vines twining through rainforest, and rosette shrubs whose leaves bristle with silvery hairs. Using a molecular clock (a method that converts genetic differences into elapsed time) calibrated against the geological ages of the islands, Baldwin and colleagues estimated that the alliance's most recent common ancestor lived no more than about 5.2 million years ago, a span falling roughly within the lifetime of the modern high islands themselves. The progenitor was an unremarkable North American tarweed, neither exotic in form nor conspicuously versatile. Baldwin and colleagues later argued that the lineage's improbable diversity owed less to time than to an ancient hybridization that doubled the founders' chromosomes, furnishing duplicate genes free to take on new roles.

6

Which choice best describes the function of the underlined sentence in the text as a whole?  
(답 : B)

- (A) It situates the radiation in time so that subsequent species counts can be dated precisely.
- (B) It heightens the puzzle of the alliance's diversity, motivating the genetic explanation that follows.
- (C) It establishes that the silversword ancestor reached Hawaii earlier than other island lineages did.
- (D) It introduces the molecular-clock method later used to reconstruct the tarweed progenitor's traits.

By the time Matthew Arnold collected his lectures as *Culture and Anarchy* in 1869, he had already confessed, in an 1865 essay on Heinrich Heine, that English lacked a name for a vice it possessed in abundance: "we have not the word," he wrote, "because we have so much of the thing." His remedy was to borrow one. From German student slang, in which *Philister* marked the unlettered townsman set against the university's "children of light," Arnold imported "Philistine" as his label for the prosperous, chapel-going English middle class. The nickname, he explained, must originally have meant a strong, dogged, unenlightened opponent of the chosen people, of the children of the light. Critics have noted that the gloss does more than decorate: by casting commerce as a hostile tribe and culture as a beleaguered elect, it converts a complaint about taste into something nearer a sacred drama.

7

Which choice best describes the function of the underlined sentence in the text as a whole?  
(답 : C)

- (A) It clarifies the etymology of "Philistine" so that readers can follow Arnold's adoption of the foreign term.
- (B) It concedes that Arnold's borrowed label rests on a historical meaning too obscure to support his critique.
- (C) It supplies the religious allegory that lets Arnold cast a critique of taste as a sacred contest.
- (D) It compares the English middle class with the German townsmen who first endured the nickname.

Text 1

The mid-twentieth-century critic F. R. Leavis, in evaluating Henry James's 1903 novel *The Ambassadors*, conceded the elaborate qualifying syntax of James's late prose but argued that the demands it places on the reader are out of proportion to the experience it delivers. The novel, in Leavis's view, requires sustained analytic attention without offering the kind of substantive material that such attention rewards.

Text 2

Ian Watt's account of the novel takes a different view of the same prose. The dense subordinate clauses, the qualifying adverbs, the deferred verbs—these features, Watt argues, are not impediments to access but the precise vehicle James needed to render his protagonist's inward, hesitating consciousness. The narrative texture is, in Watt's phrase, organized like poetry rather than written like reportage.

The following text is from Susanna Moodie's 1831 poem "Fame".

Oh what are earthly crowns and earthly bliss,  
And pride's delusive dreams, compared with this?  
Ambition's laurel, purchased with a flood  
Of human tears and stained with kindred blood,  
Once gained, converted to a crown of thorns,  
Pierces the aching temples it adorns—  
Not Sappho's lyre, nor Raphael's deathless art  
Can twine the olive round the bleeding heart;  
In heaven alone the promised blessing lies,  
And those who seek—must seek it in the skies!

8

Based on the texts, F. R. Leavis and Ian Watt would most likely disagree about the answer to which of the following questions?  
(답 : C)

- (A) Are the dense subordinate clauses and deferred verbs in *The Ambassadors* a deliberate feature of James's late style?
- (B) Did F. R. Leavis specifically point to the analytic effort required by *The Ambassadors* as a basis for his evaluation?
- (C) Does the elaborate late-period style of *The Ambassadors* detract from what readers can take away from the novel?
- (D) Was *The Ambassadors* better received by readers in James's lifetime than by readers later in the twentieth century?

9

Which choice best states the main idea of the text?  
(답 : D)

- (A) The speaker suggests that artists like Sappho and Raphael achieved lasting earthly glory.
- (B) The speaker claims that the rewards of ambition, once gained, justify their painful cost.
- (C) The speaker celebrates earthly bliss and ambition as worthy pursuits for the dedicated seeker.
- (D) The speaker argues that earthly fame and ambition bring suffering, while only heavenly reward offers true blessing.

Founded in 1996 by physician and collector Dr. Robert Gumbiner, the Museum of Latin American Art (MOLAA) in Long Beach, California occupies a converted 1920s roller-skating rink and a former silent-film studio. It is the only institution in the United States exclusively devoted to modern and contemporary art from Latin America and Latino artists. MOLAA's permanent collection, which now exceeds 1,500 works spanning painting, sculpture, photography, and video, represents more than twenty countries across the Americas. A \$10 million expansion completed in June 2007 more than doubled the museum's footprint to 55,000 square feet, and MOLAA's subsequent designation as a Smithsonian Affiliate allowed it to borrow works from that network and share resources with institutions across the country.

10

Which choice best states the main idea of the text?  
(답 : C)

- (A) MOLAA's conversion of a historic roller rink and film studio into gallery space has served as a model for other museums seeking adaptive-reuse sites.
- (B) MOLAA is notable primarily for its 2007 expansion, which significantly increased the size of its exhibition spaces and visitor capacity.
- (C) MOLAA holds a unique institutional position as the only U.S. museum dedicated to Latin American art, with a growing collection and national affiliations.
- (D) MOLAA functions as one of several major institutions in the United States that collectively document and preserve Latin American artistic traditions.

*Growth of the Soil* is a 1917 novel by Knut Hamsun, originally written in Norwegian. The novel depicts Isak as a man who finds meaning in strenuous effort, embracing the demands of wilderness life as though hardship were his natural element:

11

Which quotation from a translation of *Growth of the Soil* most effectively illustrates the claim?

(답 : A)

(A) "A born carrier of loads, a lumbering barge of a man in the forest—oh, as if he loved his calling, tramping long roads and carrying heavy burdens; as if life without a load upon one's shoulders were a miserable thing, no life for him."

(B) "He read no books, but his thoughts were often with God; it was natural, coming of simplicity and awe. The stars in the sky, the wind in the trees, the solitude and the wide-spreading snow, the might of earth and over earth filled him many times a day with a deep earnestness."

(C) "A strong, coarse fellow, with a red iron beard, and little scars on face and hands; sites of old wounds—were they gained in toil or fight? Maybe the man has been in prison, and is looking for a place to hide; or a philosopher, maybe, in search of peace."

(D) "He set about cutting winter fodder for his goats, clearing the ground, digging a field, shifting stones, making a wall of stones. By the autumn he had built a house for himself, a hut of turf, sound and strong and warm."

*A Connecticut Yankee in King Arthur's Court* is an 1889 novel by Mark Twain. When Hank Morgan realizes he may be trapped in sixth-century England as a prisoner, Twain depicts him as a man who instantly converts a threatening predicament into an occasion for personal advancement:

12

Which quotation from *A Connecticut Yankee in King Arthur's Court* most effectively illustrates the claim?  
(답 : C)

"I said to myself that my eclipse would be sure to save me, and make me the greatest man in the kingdom besides; and straightway my mercury went up to the top of the tube, and my solitudes all vanished."

"There did not seem to be brains enough in the entire nursery, so to speak, to bait a fish-hook with; but you didn't seem to mind that, after a little, because you soon saw that brains were not needed in a society like that."

"I would presently boss that asylum or know the reason why; and if, on the other hand, it was really the sixth century, all right, I didn't want any softer thing: I would boss the whole country inside of three months."

"I am a Yankee of the Yankees--and practical; yes, and nearly barren of sentiment, I suppose--or poetry, in other words."

When a swarm of army ants sweeps across the Neotropical forest floor, dozens of birds gather to snatch the insects and small animals that flee the advancing column. Ornithologist Ari Martínez and colleagues, reviewing decades of field observations, noticed that the attending species rarely crowd onto the same perches. Woodcreepers cling to broad vertical tree trunks, whereas antbirds grip thin saplings nearer the swarm's edge. Martínez's team proposes that this separation by perch type lets the two groups feed at one swarm without displacing each other, since birds stationed on different supports intercept different fleeing prey.

Which finding, if true, would most directly support Martínez's team's proposal?  
(답 : C)

A

At swarms attended by both families, woodcreepers gave more alarm calls and defended their feeding positions more aggressively than antbirds did.

B

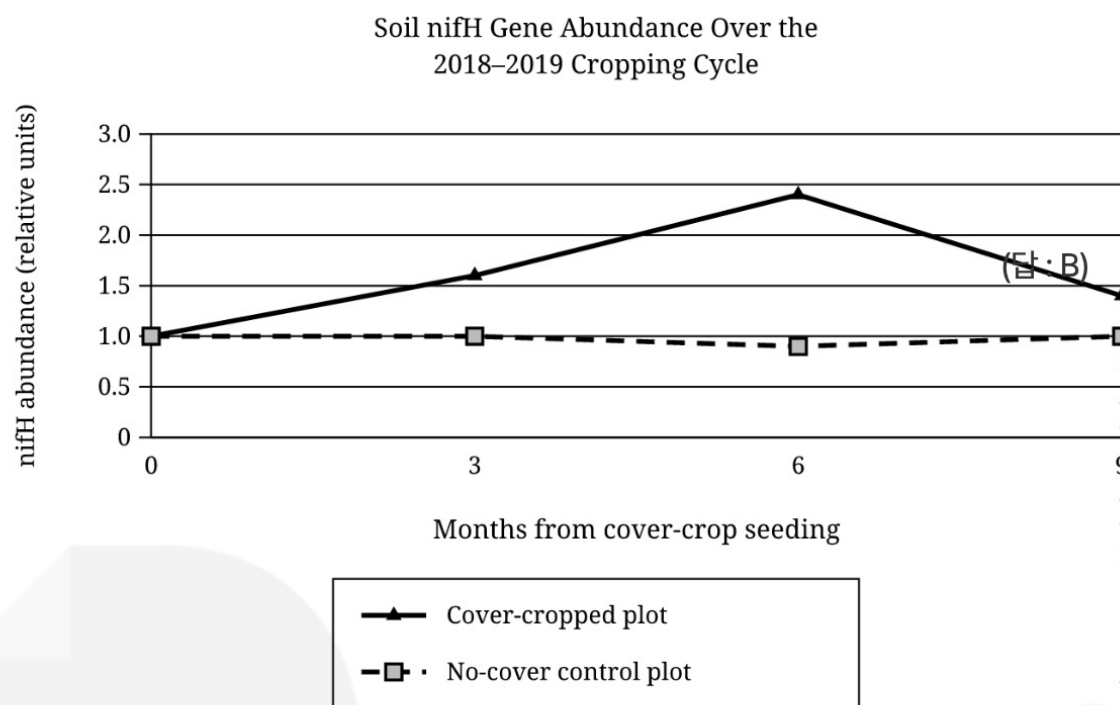
When researchers catalogued the perches used at shared swarms, woodcreepers were recorded almost exclusively on trunks wider than ten centimeters and antbirds on saplings.

C

Insects collected from woodcreepers and from antbirds feeding at the same swarms belonged largely to different groups, with little overlap between the two families' captured prey.

D

Among woodcreepers at a single swarm, individuals that perched higher on the trunks captured noticeably more prey than those perching lower did.



from the chart most logically completes the thesis?

roughly double during cover-crop growth and persist at that elevated level into the cash-crop establishment period, as the cover-cropped plot's nifH abundance climbs from 1.0 to 2.4 relative units and remains there at 9 months.

peak around the time the cover crop is terminated and then decline substantially within months of termination, as the cover-cropped plot's nifH abundance climbs to a mid-trial maximum before retreating to a substantially lower late-trial value.

How quickly does the boost in nitrogen-fixing soil microbes that legume cover crops are known to drive fade once the cover crop itself is killed and a cash crop is planted in its place? In a 2018–19 field trial comparing a legume-cover-cropped plot against an adjacent no-cover control plot, a research team tracked the abundance of the nifH gene in the soil at four sampling timepoints. Because nifH encodes a key enzyme in biological nitrogen fixation, soils with more abundant nifH host more active N-fixing microbial communities, and soils with less abundant nifH host less active communities. The team hypothesized that, relative to the control plot, the cover-cropped plot's enhanced N-fixing microbial activity would \_\_\_\_.

(C) exceed the control plot's N-fixing activity at every timepoint by approximately the same margin, as the cover-cropped plot's nifH abundance is roughly 0.5 to 1.5 relative units above the control's at each measurement.

(D) decline approximately in parallel with the control plot's N-fixing activity throughout the trial, as both plots' nifH abundance values trend downward from month 3 onward.

A 2021 study by Montserrat Martínez-Pineda and colleagues at the University of Zaragoza examined edible coatings as a strategy to reduce oil uptake in deep-fat fried mushrooms. Deep-fat frying causes moisture to evaporate from a food's surface, creating microscopic voids that oil then fills as the food cools. Methylcellulose (MC) coatings reduce this oil uptake by forming hydrogen bonds with water molecules in the food, slowing the rate of moisture evaporation. The researchers found that MC-coated mushroom samples contained significantly less oil than uncoated ones, suggesting that mushrooms fried without any MC coating would \_\_\_\_\_

15

Which choice most logically completes the text?  
(답 : A)

- ☒ A retain less moisture during cooking and absorb more oil as a result
- ☐ B retain more moisture during cooking and absorb less oil than MC-coated samples
- ☐ C develop a crispier crust that makes the final product more resistant to oil absorption
- ☐ D cool more slowly after frying, reducing the amount of oil that fills the voids

Biologists M. Desmond Ramirez and Todd H. Oakley examined skin tissue from the California two-spot octopus, an animal famous for rapidly matching the colors of its surroundings. This species controls its color using chromatophores, sacs of pigment in the skin that expand and contract on command from the brain. To see whether the brain is the only source of those commands, the researchers cut small pieces of skin from the octopus, kept them alive in seawater, and shined light directly onto them. Even with no nerve connection to the brain, the chromatophores in the skin samples expanded in response to the light, suggesting that \_\_\_\_\_

16

Which choice most logically completes the text?  
(답 : A)

- ☒ A the skin of the California two-spot octopus contains light-sensing structures that do not require signals from the brain
- ☐ B the brain of the California two-spot octopus controls chromatophore expansion more precisely when nerve connections to the skin are intact than when they are severed
- ☐ C the California two-spot octopus is better at matching the colors of its surroundings than are octopus species whose skin lacks chromatophores
- ☐ D the chromatophores in the skin samples expanded because seawater carries chemical signals that mimic those normally sent by the octopus's brain

Maison Vaudrey, the Grasse perfumer whose chypre blends once scented the courts of three European capitals, has for more than a century guarded its formulas with an almost fanatical \_\_\_\_ recipe exists only in the memory of a single master blender, the firm has never registered a patent and forbids its apprentices from writing anything down.

17

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

(답 : D)

(A) secrecy, each

(B) secrecy; each

(C) secrecy, since each

(D) secrecy: since each

Preserved in the permafrost of Siberia's Batagaika crater, the largest thermokarst depression on Earth, a sequence of frozen soil layers \_\_\_\_ an unbroken environmental record reaching back roughly 650,000 years. Paleoecologist Julian Murton extracted isotopic data from ice wedges at depths exceeding 50 meters during a 2019 field expedition. His analysis indicated that mean annual temperatures in the region fluctuated by as much as 12 degrees Celsius between glacial and interglacial periods.

18

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

(답 : B)

(A) contain

(B) contains

(C) have contained

(D) are containing

Published anonymously in 1798, the pamphlet later attributed to Josiah Crane offered the first systematic defense of free trade in the colony. Throughout its dense argument \_\_\_\_ repeated attacks on import duties, merchant monopolies, and the assumption that colonial prosperity depended on protectionist policy

19

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

(답 : A)

Ⓐ run

Ⓑ runs

Ⓒ has run

Ⓓ is running

Despite his arrogance, Mr. Darcy in *Pride and Prejudice* ultimately recognizes the flaws in his behavior and seeks to change.

Elizabeth Bennet's rejection forces \_\_\_\_ to confront the pride that has shaped his treatment of others, and his later efforts to help her family reveal a humility absent from his earlier conduct.

20

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

(답 : B)

Ⓐ them

Ⓑ him

Ⓒ it

Ⓓ us

When Yann Le Goff first began searching the Quimper cadastral office for forgotten Breton \_\_\_\_ he expected to find only a few dozen at most. Instead, the survey registers compiled during the 1880s yielded roughly fourteen hundred distinct names, many of which had never appeared on any official French map of the region.

21

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

(답 : C)

Ⓐ place-names—

Ⓑ place-names;

Ⓒ place-names,

Ⓓ place-names:

Tendai Mhuka \_\_\_\_ freshwater crabs at a Harare vivarium since 2009, recording how each generation responds to changes in water temperature and acidity. He reports that the average shell width of his captive colony has shrunk noticeably as breeding-tank temperatures have crept upward over the past decade. Such shifts may foreshadow stress in wild populations.

22

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

(답 : B)

Ⓐ raised

Ⓑ has raised

Ⓒ had raised

Ⓓ would have raised

After squeezing through a flooded passage barely wide enough for a single climber to pass, \_\_\_\_ The 2016 expedition, organized by a regional lyceum, ultimately charted more than twelve kilometers of flooded galleries beneath the central Pyrenees.

23

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

(답 : D)

- (A) the survey of the cave's deepest chamber could finally begin.
- (B) a vast underground chamber opened before the exhausted team.
- (C) it took several more hours to reach the cave's deepest chamber.
- (D) Mirèio Estève emerged into a vast, previously unmapped chamber.

Gustave Eiffel expected his tower to stand for only twenty years, and in 1887 a group of prominent artists and writers signed a public letter denouncing the half-built structure as a monstrous eyesore. Its saving grace turned out to be its height, which made it ideal for the radio antennas the French military soon came to depend on. \_\_\_\_ the tower once scorned as temporary became the lasting symbol of the city that had nearly torn it down.

24

Which choice completes the text with the most logical transition?

(답 : B)

- (A) Likewise,
- (B) Ultimately,
- (C) For instance,
- (D) Of course,

Olive trees are remarkably difficult to kill: even after a trunk is burned, cut down, or frozen, the tree can regenerate from its root system, sending up fresh shoots that mature into a new canopy over time. This resilience explains why some groves in the Mediterranean have remained productive for more than a thousand years. \_\_\_\_ the same root system lets the trees thrive in thin, rocky soils where most fruit crops would quickly wither.

25

Which choice completes the text with the most logical transition?

(답 : A)

Ⓐ Additionally,

Ⓑ However,

Ⓒ Previously,

Ⓓ Granted,

The metric system is often described as a successful effort to replace varied local measures with a single rational standard. Today, only a small number of countries have not adopted it as the primary system for everyday use. \_\_\_\_ some nonmetric units remain in specialized use even in countries that otherwise rely on metric measurements: aircraft altitude is commonly reported in feet, and ship speed is typically measured in knots.

26

Which choice completes the text with the most logical transition?

(답 : A)

Ⓐ Granted,

Ⓑ Consequently,

Ⓒ Moreover,

Ⓓ Likewise,

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

- The blue whale is the largest animal known to have ever lived.
- An adult blue whale can reach lengths of about 30 meters and weigh up to 180 metric tons.
- The largest known dinosaur, the titanosaur Argentinosaurus, is estimated to have weighed around 70 metric tons.
- The African bush elephant, the largest living land animal, weighs up to about 6 metric tons.
- A blue whale's tongue alone can weigh as much as a single elephant.

27

The student wants to emphasize how large the blue whale is relative to other animals. Which choice most effectively uses relevant information from the notes to accomplish this goal?  
(답 : C)

- (A) An adult blue whale can reach lengths of about 30 meters and weigh up to 180 metric tons.
- (B) The largest known dinosaur, Argentinosaurus, is estimated to have weighed around 70 metric tons, while the African bush elephant weighs up to about 6 metric tons.
- (C) At up to 180 metric tons, the blue whale far outweighs even the largest known dinosaur, Argentinosaurus, at around 70 metric tons, and the African bush elephant, at about 6 metric tons.
- (D) The blue whale can weigh up to 180 metric tons, far exceeding the mass of other animals; even its tongue alone weighs as much as an entire Argentinosaurus.

Module: 26SM-MT-T09-M1

1

If  $8x + 11 = 2001$ , what is the value of  $80x + 110$ ?  
(답 : 20010)

20010

2

A store packs 2-pound, 5-pound, and 8-pound bags of rice. During one afternoon, the number of 2-pound bags packed is 4 times the number  $n$  of 5-pound bags packed, and the number of 8-pound bags packed is 15. During this afternoon, the store packs 95 bags total.

Which equation represents this situation?

(답 : C)

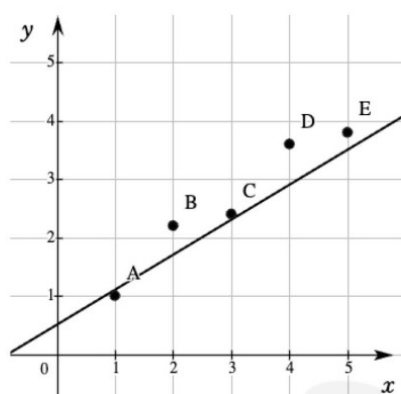
(A)  $2(4n) + 5n + 8(15) = 95$

(B)  $4n + 15 = 95$

(C)  $5n + 15 = 95$

(D)  $2n + 5n + 8n = 95$

3



The scatterplot shows the relationship between  $x$  and  $y$ . A line of best fit is also shown. Which of the following is closest to the slope of the line of best fit shown?

(답 : C)

(A)  $-1.67$

(B)  $-0.60$

(C)  $0.60$

(D)  $1.67$

4

$$\begin{aligned}4x - y &< 9 \\ 2x + 3y &\leq 18\end{aligned}$$

Which point  $(x, y)$  is a solution to the given system of inequalities in the  $xy$ -plane?

(답 : D)

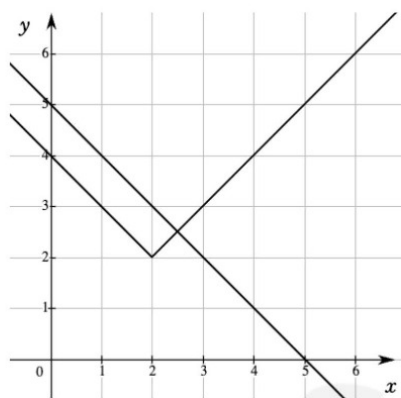
(A)  $(3, 3)$

(B)  $(2, 5)$

(C)  $(4, 3)$

(D)  $(3, 4)$

5



The graph of an absolute value function and a linear function is shown.

What is the solution  $(x, y)$  to this system of two equations?

(답 : D)

(A)  $(2, 2)$

(B)  $(3, 5)$

(C)  $\left(\frac{7}{2}, \frac{9}{2}\right)$

(D)  $\left(\frac{5}{2}, \frac{5}{2}\right)$

6

$$6x^2 - 8x - 5 = 0$$

What is the greater solution to the given equation?  
(답 : B)

(A)  $\frac{4 - \sqrt{46}}{6}$

(B)  $\frac{4 + \sqrt{46}}{6}$

(C)  $\frac{-4 + \sqrt{46}}{6}$

(D)  $\frac{8 + \sqrt{46}}{6}$

7

$$(x - 15)(x - 9)(x + 6)(x + 11) = 0$$

What is the smallest negative solution to the given equation?  
(답 : -11)

-11

8

$$\begin{aligned}x^2 + y^2 &= 250 \\ y + 3x &= 0\end{aligned}$$

A solution to the given system of equations is  $(x, y)$ , where  $x < 0$ .

What is the value of  $y$ ?

(답 : D)

(A)  $-15$

(B)  $-5$

(C)  $5$

(D)  $15$

9

A robotics club tested four battery-powered carts on the same straight track. Each cart was tested 10 times, and the time, in seconds, that the cart took to reach the end of the track was recorded for each trial. The table shows the frequency of each recorded time for the four carts.

| Cart | 18 seconds | 20 seconds | 22 seconds |
|------|------------|------------|------------|
| A    | 3          | 4          | 3          |
| B    | 1          | 8          | 1          |
| C    | 0          | 9          | 1          |
| D    | 0          | 6          | 4          |

The club wants to choose the cart whose trial times were the most consistent. Which cart's trial times have the smallest standard deviation?

(답 : C)

(A) Cart A

(B) Cart B

(C) Cart C

(D) Cart D

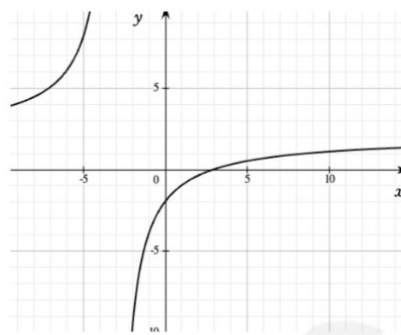
10

In triangle  $ABC$ , point  $D$  lies on side  $AC$ , and segment  $BD$  is perpendicular to  $AC$ . The length of  $AD$  is 8 centimeters, and the length of  $DC$  is 14 centimeters. If the area of triangle  $ABC$  is 154 square centimeters, what is the height  $BD$ , in centimeters?

(답 : C)

☐ (A) 7☐ (B) 11☒ (C) 14☐ (D) 22

11



The graph of  $y = f(x)$  is shown in the  $xy$ -plane. For what value of  $x$  does  $f(x) = 0$ ?

(답 : D)

☐ (A) -3☐ (B) -2☐ (C) 0☒ (D) 3

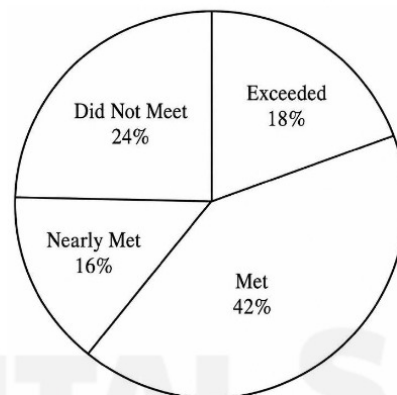
$$7x^2 + 12 = mx$$

In the given equation,  $m$  is a constant. The equation has exactly one real solution. What is the value of  $\frac{m^2}{21}$  ?  
(답 : 16)

0.4285714286

The circle graph shows the distribution of results for 600 students who took a school fitness assessment.

### DISTRIBUTION OF RESULTS



Students in the first three categories are considered to have passed the assessment. Students in the "Did Not Meet" category are considered not to have passed. What percent of the students who did not meet the benchmark would need to meet the benchmark instead in order for at least 88% of all students to have passed the assessment?

(답 : D)

(A) 12%

(B) 24%

(C) 40%

(D) 50%

14

$$f(x) = 3x + 8$$

$$g(x) = 4x - 5$$

$$h(x) = 2x - 7$$

The functions  $f$ ,  $g$ , and  $h$  are defined as shown. If

$f(x) \cdot g(x) - h(x) = ax^2 + bx + c$ , where  $a$ ,  $b$ , and  $c$  are constants, what is the value of  $a + b + c$ ?

(답 : A)

(A)  $-6$

(B)  $15$

(C)  $27$

(D)  $33$

15

$$\frac{x}{6} + \frac{y}{11} = \frac{19}{22}$$

An engineer connects resistors in series. In a series connection, the total resistance is equal to the sum of the resistance of all the individual resistors. The resistors in the series have a total resistance of  $\frac{19}{22}$  ohms.

In this series, there are  $x$  resistors of type  $A$ , which each have a resistance of  $a$  ohms, and  $y$  resistors of type  $B$ , which each have a resistance of  $b$  ohms. The given equation represents this situation.

According to this equation, what is the positive difference between the value of  $a$  and the value of  $b$ ?

(답 : 5/66,0.075,0.076,.0757,.0758)

1

16

The equation  $2x^2 + 2y^2 - 12x + 20y = 14$  defines a circle in the  $xy$ -plane. What is the radius of the circle?

(답 : C)

Ⓐ  $\sqrt{7}$

Ⓑ  $\sqrt{34}$

Ⓒ  $\sqrt{41}$

Ⓓ 41

17

The function  $h$  estimates an object's height, in feet, above the ground  $t$  seconds after the object is dropped. The function is defined by

$$h(t) = -16t^2 + b,$$

where  $b$  is a constant. The function estimates that the object is 64 feet above the ground 1.5 seconds after being dropped. How many seconds after being dropped does the function estimate the object will hit the ground?

(답 : 2.5, 5/2)

99.57142857

18

In the  $xy$ -plane, the graph of the equation  $y = mx + 6$  is a line that forms an angle of  $\theta$  with the negative  $x$ -axis, where  $0^\circ < \theta < 90^\circ$  and  $\cos \theta = \frac{5}{8}$ . What is the value of  $m$ ?

(답 : D)

(A)  $\frac{5}{\sqrt{39}}$

(B)  $\frac{5}{8}$

(C)  $\frac{\sqrt{39}}{8}$

(D)  $\frac{\sqrt{39}}{5}$

19

A community boating club has 96 members. Of these members, 54 have completed a first-aid training, 42 have completed a boating safety training, and 18 have completed both trainings. If one member who completed at least one of the two trainings is selected at random, what is the probability that the selected member completed boating safety training but not first-aid training?

(답 : A)

(A)  $\frac{4}{13}$

(B)  $\frac{1}{4}$

(C)  $\frac{2}{5}$

(D)  $\frac{7}{13}$

20

The graph of the equation  $3x + 4y = 24$  is shifted 5 units left and 7 units down in the  $xy$ -plane. What is the  $y$ -coordinate of the  $y$ -intercept of the resulting graph?

(답 : -19/4, -4.75)

-1

21

A rectangular garden has a fence around its perimeter, except that a 5-foot-wide gate replaces one section of the fence. The length of the garden is 4 feet more than twice its width. If 75 feet of fencing is used, what is the area, in square feet, of the garden?

(답 : D)

(A) 75

(B) 80

(C) 144

(D) 336

The function  $g$  is defined by  $g(x) = a(x + 6)(t - x)$ , where  $a$  and  $t$  are positive constants. In the  $xy$ -plane, the graph of  $y = g(x)$  passes through the points  $(14, 0)$  and  $(2, 288)$ . What is the value of  $g(0)$  ?  
(답 : B)

(A) 84

(B) 252

(C) 288

(D) 336

Module: 26SM-MT-T09-M2L

$$4\sqrt{3x - 11} = \sqrt{80}$$

What is the solution to the given equation?  
(답 : A)

(A)  $\frac{16}{3}$

(B)  $\frac{31}{3}$

(C) 16

(D)  $\frac{91}{3}$

2

A square tile has a side length of 9 centimeters. A rectangular tile has an area of 45 square centimeters. What is the total area, in square centimeters, of the square tile and the rectangular tile?

(답 : 126)

126

3

$$\text{Circle } A : (x + h)^2 + (y - 6)^2 = 50$$

$$\text{Circle } B : (x + h)^2 + (y + 6)^2 = 50$$

In the given equations,  $h$  is a positive constant. Which statement correctly compares the graphs of circles  $A$  and  $B$  in the  $xy$ -plane?

(답 : B)

(A) Circle  $B$  is the reflection of circle  $A$  across the  $y$ -axis.

(B) Circle  $B$  is the reflection of circle  $A$  across the  $x$ -axis.

(C) Circle  $B$  is the translation of circle  $A$  12 units up.

(D) Circle  $B$  is the translation of circle  $A$   $2h$  units to the right.

4

A woodworking shop has 810 board feet of lumber. What is the volume, in cubic yards, of the lumber? ( 1 board foot = 144 cubic inches, 1 cubic foot = 1,728 cubic inches, and 1 cubic yard = 27 cubic feet)  
(답 : 5/2, 2.5)

1822.5

5

The polynomial  $10x^4 + 33x^2 + 20$  can be written in the form  $(ax^2 + b)(cx^2 + d)$ , where  $a, b, c$  and  $d$  are positive integer constants. Which of the following is a possible value of  $ab$  ?  
(답 : B)

☐ (A) 8☒ (B) 10☐ (C) 15☐ (D) 25

6

How many integer values of  $x$  with  $-6 \leq x \leq 6$  satisfy the equation

$$\frac{3x^2 - 16x + 5}{x - 5} = 3x - 1$$

(답 : C)

(A) 10

(B) 11

(C) 12

(D) 13

7

An alloy is made by combining alloy A , which is 18% nickel by mass, and alloy B , which is 42% nickel by mass. The final alloy has a total mass of 30 kilograms and is 32% nickel by mass. What is the ratio of the mass of alloy A to the mass of alloy B in the final alloy?

(답 : A)

(A) 5 : 7

(B) 7 : 5

(C) 3 : 4

(D) 9 : 16

8

If  $g(4x - 3) = \sqrt{3x^2 - 8x + 29}$  for all real numbers  $x$ , what is the value of  $g(9)^2$ ?

(답 : B)

☒ A  $\sqrt{32}$

☐ B 32

☐ C  $32\sqrt{2}$

☐ D 3

9

$$\frac{|5x - 55| + 9}{2} = x + 4$$

What is the sum of the solutions to the given equation?

(답 : 26)

10

10

A survey was conducted in Brookdale to estimate the percent of adult residents who support changing the starting time of public high schools to a later time. Based on the survey, it is estimated that 43% of all adult residents of Brookdale support changing the starting time, with an associated margin of error of 8%. Which of the following is the most appropriate conclusion about all adult residents of Brookdale?  
(답 : B)

- (A) More than 51% of all adult residents of Brookdale support changing the starting time.
- (B) Plausible values for the percent of all adult residents of Brookdale who support changing the starting time are between 35% and 51%.
- (C) Plausible values for the percent of all adult residents of Brookdale who support changing the starting time are either less than 35% or more than 51%.
- (D) Exactly 43% of all adult residents of Brookdale support changing the starting time.

11

In a set of four consecutive odd integers, the integers are ordered from least to greatest, and the first integer is represented by  $x$ . The first integer is greater than  $-15$  and less than  $10$ . The product of 7 and the third odd integer is at least 18 more than the sum of the second and fourth odd integers. How many possible sets of four consecutive odd integers satisfy these conditions?  
(답 : A)

- (A) 5 sets
- (B) 6 sets
- (C) 10 sets
- (D) 12 sets

12

The length of a rectangle's diagonal is  $\sqrt{421}$ , and the area of the rectangle is 210 . What is the perimeter of the rectangle?

(답 : B)

(A) 29

(B) 58

(C) 210

(D) 421

13

A sector of a circle has a central angle of  $72^\circ$  . The arc length of the sector is  $10\pi$  . What is the area of the sector?

(답 : B)

(A)  $50\pi$

(B)  $125\pi$

(C)  $250\pi$

(D)  $625\pi$

14

$$\frac{1}{3}x^2 - 5x + k = 7$$

In the given equation,  $k$  is a constant. A solution to the equation is

$\frac{15}{2} - \frac{\sqrt{93}}{2}$ . What is the value of  $k$  ?  
(답 : 18)

18

15

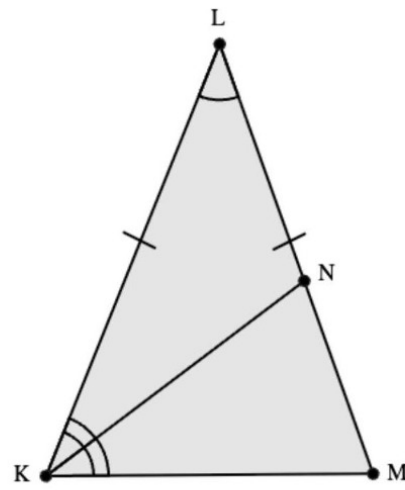
A fundraiser account contains \$150 when it is started. The amount of money in the account, in dollars, is modeled by

$$A(w) = 150(1.25)^w,$$

where  $w$  is a nonnegative integer representing the number of complete weeks after the fundraiser is started. What is the least number of complete weeks after the fundraiser is started for the amount in the account to be at least \$500 ?

(답 : 6)

4



Note: Figure not drawn to scale.

In isosceles triangle  $KLM$ ,  $KL = LM$ , and the measure of angle  $KLM$  is  $36^\circ$ . Point  $N$  lies on  $\overline{LM}$  between  $L$  and  $M$ . Segment  $\overline{KN}$  bisects angle  $LKM$ . If  $\overline{KM} = 20$ , what is the length of  $\overline{LN}$ ?  
(답 : C)

(A) 12

(B) 18

(C) 20

(D) 24

17

The polynomial  $P$  is defined by

$$P(x) = 5x^2 + mx + 18b,$$

where  $m$  and  $b$  are positive integer constants. The expression  $x + 2b$  is a factor of  $P(x)$ , and  $m$  is 81 greater than  $b$ . What is the greater zero of  $P$ ?

(답 : B)

(A)  $-16$

(B)  $-\frac{9}{5}$

(C)  $\frac{9}{5}$

(D)  $\frac{71}{5}$

18

A bookstore tracks the revenue from e-books and printed books. In May, the combined revenue from e-books and printed books was \$12,000. From May to June, the revenue from e-books increased by 35%, the revenue from printed books decreased by 15%, and the combined revenue from these two categories increased by 5%.

From June to July, the revenue from e-books decreased by 20%, and the revenue from printed books increased by 50%. What was the combined revenue, in dollars, from e-books and printed books in July?

(답 : B)

(A) \$13,896

(B) \$14,364

(C) \$14,490

(D) \$14,640

19

A runner completes a route that has two legs of equal length. Each leg is 1.5 miles long. On the first leg, the runner's speed is 24 feet per second. On the second leg, the runner's speed is  $p\%$  greater than the speed on the first leg. What is the least integer value of  $p$  for the runner's average speed over the entire route to be at least 20 miles per hour? (1 mile = 5280 feet)  
(답 : 58)

10

20

The function  $h$  is defined by  $h(x) = \frac{12x^2}{x^2 - 16k^2} - \frac{6x}{x + 4k}$ , where  $k$  is a positive constant. For a positive constant  $r$ , suppose  $h(rk) = -30$ . What is the value of  $r$ ?  
(답 : B)

(A)  $-30$ (B)  $\frac{10}{3}$ 

(C) 4

(D) 78

21

For the complex number  $z = a + bi$ , where  $i = \sqrt{-1}$ ,  $a$  and  $b$  are positive integers. Suppose  $a^2 + b^2 = 85$  and the real part of  $(2 - i)z$  is 19. What is the value of  $a + b$ ?

(답 : A)

☐ (A) 13☐ (B) 42☒ (C) 78☐ (D) 85

22

The graph of  $y = x^2 - 6x + 55$  and the graph of  $y = 2kx - 9$  intersect at exactly one point in the  $xy$ -plane, where  $k$  is a positive constant. What is the  $y$ -coordinate of this point?

(답 : D)

☐ (A) 5☐ (B) 8☒ (C) 55☐ (D) 71