CERT - Grade 12 - READING TEST 1

35 Minutes—40 Questions

DIRECTIONS: There are four passages in this test. Each passage is followed by several questions. After reading a passage, choose the best answer to each question and fill in the corresponding oval on your answer document. You may refer to the passages as often as necessary

55

Passage I

Prose Fiction: The following passage is adapted from the short story "The Outlaws" by Selma Lagerlof.

A peasant who had murdered a monk took to the woods in flight. He was quickly made an outlaw by the villagers with whom he had lived. To his surprise, he found before him in the wilderness another outlaw, a fisherman from the outermost islands who had been accused of stealing a herring net. The two joined together, lived in a cave, set snares, sharpened darts, baked bread on a granite rock, and guarded one another's lives. The peasant never left the woods. The fisherman, who had not committed such an abominable crime, however, sometimes loaded game on his shoulders and stole down the mountain to be among men. There, he managed to acquire, in exchange for ring-neck pheasants, for long-eared hares, and for fine-limbed red deer, milk and butter, arrowheads, and clothes. These items helped the outlaws sustain life in the wilderness.

The cave where they lived was dug in the side of a hill. Broad stones and thorny sloe-bushes hid the entrance from virtually every vantage point. Above the center of the cave grew a thick, mature pine tree. At its roots the outlaws had born a vent-hole for the cave using crude implements. The rising smoke from small fires within filtered through the vent and then through the tree's thick branches where it seemed to vanish into space. The men used to go to and from their dwelling place, wading in the mountain stream, which ran down the hill. No one looked for their tracks under the merry, bubbling water.

At first they were hunted like wild beasts. The peasants gathered as if for a chase of bear or wolf. The wood was permeated by men with bows, arrows, and other weapons. Men wielding spears went through it, leaving no dark crevice or busy thicket unexplored. While the noisy battue hunted through the wood, the outlaws lay in their dark hole, listening breathlessly, panting with terror. The fisherman held out a whole day, but he who had murdered was driven by unbearable fear out into the open where he could see his enemy. He was quickly spotted and chased, but it seemed to him seven times better than to lie still in helpless inactivity.

He fled from his pursuers, slid down precipices, sprang over streams, and climbed up perpendicular mountain walls. All latent strength and dexterity in him was called forth by the frenzy of danger. His body became elastic like a steel spring; his foot made no false step; his fingers never lost their hold; eye and ear were twice as sharp as usual. He understood what the leaves whispered and the rocks warned. When he had climbed up a precipice, he turned toward his pursuers, sending them gibes in biting rhyme. When the whistling darts whizzed by him, he caught them, swift as lighting, and hurled them down on his enemies. As he forced his way through whipping branches, something within him sang a song of triumph.

The bald mountain ridge ran through the wood and alone on its summit stood a lofty fir. The red-brown trunk was bare, but in the branching top rocked an eagle's nest. The fugitive was now so audacious that he climbed up to the perch, while his pursuers looked for him on the wooded slopes. There he sat muffling the panicked cries of the young eaglets, while the hunt passed by far below him. Panicked and alarmed, the male and female eagles swooped down upon the invader. They fluttered before his face, striking with their beaks at his eyes, beating him with their wings, and tearing with their claws superficial wounds in his weatherbeaten skin. Laughing, he fought with them. Standing upright in the shaking nest, he cut at them with his sharp knife and forgot in the pleasure of the play the danger and his pursuers in the wood below. When he found time to look for them, they had already gone by to some other part of the forest. No one had thought to look for the prey on the bald mountain ridge. No one had raised an eye to the clouds to see him practicing boyish tricks and sleepwalking feats while his life was in the greatest danger.

The peasant trembled when he found that he was safe. With shaking hands, he caught at a support. Giddy with relief, he measured the height to which he had climbed. He then moaned with the fear of falling. Afraid of the birds, afraid of being seen, afraid of everything, he eventually slid down the trunk. He laid himself forward over the rocks until the underbrush covered him. There he hid himself under the young pine

Line

- 85 tree's tangled branches. Weak and powerless, he sank down on the moss. A single man could have captured him as he recovered from the reality of what had transpired. After what seemed like an hour, he stumbled back to the cave to find his companion no worse off, still motionless with fear.
- 1. The passage primarily provides a vivid description of:
 - **A.** a fisherman's life in the woods with his friends.
 - **B.** how an outlaw evaded members of a search effort in the woods.
 - **C.** why caves are not always the best places to hide in the woods.
 - **D.** how mating adult eagles instinctually protect their young.
- **2.** In terms of developing the story, the first two paragraphs primarily:
 - **F.** introduce the main characters and set the scene.
 - **G.** introduce the main characters and foreshadow their demise.
 - **H.** create a dilemma that is resolved later in the passage.
 - **J.** establish a tone of informality and humor.
- **3.** The passage is narrated from the perspective of:
 - **A.** the outlaw who had murdered the monk.
 - **B.** the villagers who were searching for the outlaw.
 - C. a third party with intimate knowledge of all details.
 - **D.** a third party with limited knowledge of details and events.
- **4.** It can most reasonably be inferred from the first paragraph that the outlaws "guarded one another's lives" (lines 8-9) from:
 - **F.** eagles that nested high in trees.
 - **G.** other humans who might spot them.
 - **H.** wild beasts, like bears or wolves.
 - **J.** other outlaws living in the woods.

- **5.** The word "busy" in line 33 suggests that the thicket was:
 - A. impenetrable
 - **B.** dense
 - C. thorny
 - **D.** poisonous
- **6.** According to the fourth paragraph (lines 41-54), when fleeing his pursuers, the outlaw's body and mind responded:
 - **F.** with unusual lethargy.
 - **G.** incredibly well.
 - **H.** as if enervated.
 - **J.** somewhat better.
- **7.** Based on the description in the fifth paragraph, during his fight with the eagles, the outlaw did all of the following EXCEPT:
 - A. stand upright in the shaky nest.
 - **B.** incur minor scratches.
 - C. brandish a sharp knife.
 - **D.** gaze down upon his human pursuers.
- **8.** The events described in paragraphs 4-6 took place:
 - **F.** in a fictional world.
 - **G.** in the peasant's imagination.
 - **H.** shortly after the monk was murdered.
 - **J.** years after the monk was murdered.
- **9.** As used in line 78, the word "support" most likely refers to:
 - A. a stake.
 - **B.** a nest.
 - C. a branch.
 - D. an eaglet.
- **10.** The narrator's attitude toward the outlaw can best be described as:
 - F. disapproving
 - **G.** detached
 - H. approving
 - J. enthusiastic

Passage II

Social Science: The following passage discusses several aspects of Pilates, an exercise program developed by Joseph Pilates in 1923.

Pilates is a physical fitness program that began sweeping the nation during the mid 1990s, changing the notion of a "workout" for many. That's right; for many exercise enthusiasts, long gone are the days of monotonous treadmills and stationary bikes. Long gone too are the days of pushups, sit-ups, and other traditional forms of strength training. Even once fashionable tae bo and body-pump group classes have lost their appeal to the masses within the last decade, perhaps as a result of the Pilates movement.

Developed in the early twentieth century by German-born Joseph Pilates, the fitness program that bears his name currently boasts more than 11 million regular participants and 14,000 instructors throughout the United States. Amazingly, the numbers continue to grow. So why—you may ask—has Pilates become and remained so popular?

Marketing experts claim that Pilates has remained the exercise rage because it has been espoused and promoted by so many celebrities. "Just walk through the DVD sections of fitness or entertainment product retailers and you will be overwhelmed with images, testimonials, and other endorsements from celebrities like Madonna, Martha Stewart, and Tiger Woods," says one marketing executive. "Celebrities attract adult admirers to Pilates the way a character like SpongeBob SquarePants attracts children to specific brands of cereal or liquid soap."

One psychologist explained the phenomena by pointing out that humans are social creatures who are willing to go to extremes to be accepted by not only family, friends, and co-workers, but also by members of their communities at large. "Celebrities are the members of a society who are accepted and admired by the masses. Whether celebrities are actually happy is What is critical is that celebrities are irrelevant. perceived as happy and admired. This perception causes, often unconsciously, everyday people like you and me to seek the same happiness and admiration. So how do we go about doing so? We emulate celebrities: If they wear Armani sunglasses, we wear Armani sunglasses; if they practice Pilates, we practice Pilates."

In contrast, fitness experts argue that the physical benefits of Pilates keep adults coming back for more. Joseph Pilates himself classified his fitness program as a form of "contrology," because he believed his method of exercise helped the dedicated participant learn how to use his mind to control his body. This benefit alone, touted Pilates, made his program superior to all others.

The goal of Pilates is not a "washboard stomach" or bulging biceps. Pilates focuses on strengthening the core postural muscles (i.e., the ones that help keep the human body balanced and that are essential to providing support for the spine). "Once you've begun to experience the physical benefits of strong and controlled deep back and torso muscles," asserted one renowned exercise physiologist, "the benefits of other workouts pale in comparison."

Some adherents admit that they have stuck with Pilates for social reasons. "Pilates classes are a great way to meet people," claimed a young adult who regularly attends a group class near his home in Southern California. "I have become friends with quite a few of my Pilates classmates," he added. "We share a healthy lunch after class whenever possible. We even socialize, at times, on weekends and holidays."

Sociologists explain this trend by noting that social networking in America has evolved over time. "Years ago, adults would network at places like bars and night clubs," asserted one sociologist. "Today, there are essentially two new social networking options for adults: online chat rooms and fitness centers."

Other adult participants contend that Pilates offers them a great opportunity to exercise with their children. "Many of my adult students attend class with their children," stated one instructor. "They see Pilates class as the perfect way to exercise and spend time with their children."

"Social benefits notwithstanding," commented one fitness center owner, "our Pilates classes help parents teach their children about the importance of regular exercise in leading a healthy and fulfilling life. Many parents in today's society fail to instill in their children the importance of an exercise program that is both fun and safe for growing bodies."

- **11.** According to the passage, adults participate in Pilates classes for all of the following reasons EXCEPT:
 - **A.** to spend time with their children.
 - **B.** to emulate celebrities.
 - C. to increase core postural muscle strength.
 - **D.** to achieve a more balanced diet.
- **12.** The main function of the second paragraph (lines 11-17) in relation to the passage as a whole is to:
 - **F.** provide some background information and pose a question that the author attempts to answer in the remainder of the passage.
 - **G.** cite an authority and pose a rhetorical question that is never fully answered by the author in the remainder of the passage.
 - **H.** introduce statistics that are immediately undermined by the rhetorical question that follows.
 - **J.** support a claim made in the first paragraph and anticipate a possible objection to the question posed.
- **13.** The author includes the quote that refers to "SpongeBob SquarePants" (lines 25-28) in order to help the reader:
 - **A.** remember a simpler time of life.
 - **B.** understand adult attraction to celebrities.
 - **C.** introduce a humorous tone to the passage.
 - **D.** highlight marketing brilliance.
- **14.** It is reasonable to infer that the psychologist quoted in paragraph four (lines 29-42):
 - **F.** disapproves of people who admire celebrities.
 - **G.** may admire certain celebrities herself.
 - **H.** is happy being a psychologist.
 - J. wears Armani sunglasses and practice Pilates.
- **15.** The term *contrology* (line 46) is most likely in quotation marks in order to indicate that the word:
 - **A.** is being used ironically.
 - **B.** was coined by Joseph Pilates.
 - **C.** was used widely in Germany.
 - **D.** is rooted in mythology.

- **16.** The phrase *stuck with* (line 60) suggests that without the social aspects of Pilates class:
 - **F.** some children would lose interest.
 - **G.** some adults would not socialize.
 - **H.** some instructors would be less demanding.
 - **J.** some adults would stop participating.
- **17.** According to the statements made by the sociologist in paragraph 8 (lines 68-73):
 - **A.** adults no longer network socially at bars or night
 - **B.** online chat rooms are extremely popular among adults.
 - **C.** fitness centers are places where people can interact socially.
 - **D.** fitness centers no longer focus on the physical wellbeing of members.
- **18.** Based on the passage, which of the following statements is most likely true?
 - **F.** An exercise program designed to strengthen core postural muscles is entirely safe for everyone.
 - **G.** Social networking has become more and more popular over time.
 - **H.** An exercise program designed to strengthen core postural muscles is generally safe for children.
 - **J.** Celebrities enjoy the social benefits of Pilates more than everyday people.
- **19.** As it is used in line 83, the word *fulfilling* means:
 - **A.** busy
 - **B.** satisfying
 - **C.** active
 - **D.** relaxing
- **20.** According to the passage, which statement best summarizes the answer to the question posed in lines 16-17?
 - **F.** Membership in Pilates classes continues to grow over time.
 - **G.** There are many reasons to explain why people practice Pilates.
 - **H.** Pilates helps people lead healthy lives.
 - **J.** Marketing experts use celebrities and social networks to promote Pilates.

GO ON TO THE NEXT PAGE

Passage III

Humanities: Passage A is adapted from the essay "Hawthorne and His Faun." Passage B is adapted from the essay "Debussy: Poetic and Painterly Inspiration."

Passage A

25

35

In 1858, author Nathaniel Hawthorne visited the Capitoline Museum in Rome. While admiring the art on display there, Hawthorne happened upon a sculpture of a faun, a mythological creature that combined the physical 5 characteristics of a human male and a goat. The lifesized marble piece enchanted Hawthorne; upon viewing it, he "was sensible of a peculiar charm in it; a sylvan beauty and homeliness, friendly and wild at once. The lengthened, but not preposterous ears, and the little tail ... 10 make the spectator smile in his very heart."

Inspired by the expert craftsmanship, Hawthorne began work on a new novel, The Marble Faun, published in 1860. In the text, Hawthorne thoroughly explores the intriguing intersection of human and animal characteristics that the statue presents. He also delves into the creature's mythical reputation for impishness and joviality. The story begins in the same Capitoline Museum where Hawthorne himself saw the sculpture. A character named Donatello visits the museum with friends, who notice striking similarities between Donatello's physical appearance and the statue's. Like the marble figure, Donatello has thick curly hair that obscures the tops of his ears, causing his friends to wonder whether his ears come to a point like the faun's.

When questioned about his resemblance to the sculpture, Donatello responds as a faun might, offering coy answers. His responses to subsequent inquiries suggest that he may, indeed, hail from the line of mythical creatures. Later, Donatello continues to behave 30 in ways that evoke a faun. He frolics and capers around the museum, prodding his friends' curiosity: Is he excited by seeing one of his own kind? Is he reveling in his friends' suspicion of his true self? Or, is Donatello simply enjoying being the center of attention?

Hawthorne never resolves the uncertainty surrounding Donatello's identity, and, while The Marble Faun proved to be a commercial success, early readers of the novel were disappointed by this ambiguity. Perhaps those readers expected an ending similar to that found in The Scarlet Letter. Hawthorne's well-known novel from 1850, which clearly spells out the fates of the book's main characters. Since modern literature has evolved to embrace unresolved issues, perhaps today's reader is better conditioned to appreciate *The Marble Faun*.

Passage B

The poet Stéphane Mallarmé articulated his artistic philosophy when he remarked "suggestion ... that's the ideal." Because of his strict avoidance of overt statements, he is known as a symbolist poet. Mallarmé's famous work "The Afternoon of a Faun" adopts an intentional ambiguity. In the poem, published in 1876, a faun, drowsy from drinking wine, recalls a period earlier in the day during which he had chased nymphs—his female counterparts—through the forest. Mallarmé's language intentionally shrouds the faun's recollections in mystery. The reader is left to ponder whether the faun is hazily recalling real encounters or dream sequences.

Many of the ideas in Mallarmé's poem align with the musical sensibilities of Claude Debussy. An impressionist composer, Debussy used fragments of melody, occasionally augmented by colorful harmonies, that dart in and out of his compositions. His technique eschewed the long lines of flowing melody favored by classical music composers of earlier times and mimicked the work of the French impressionist painters of the late 18th century, who used dabs of color instead of elegant brushstrokes to enliven their canvases.

Debussy's "Prelude to the Afternoon of a Faun," which debuted in 1894, is one of his most famous compositions; its title acknowledges Debussy's debt to 70 Mallarmé. Debussy positioned the piece as "a free illustration" of the poem, not a strict musical The dreamlike mood he creates is interpretation. distilled in a main theme, which consists of a series of descending notes. Musically, Debussy evokes a drifting 75 off to sleep, an effect he heightens through use of the flute to sound the theme. He chose the flute, an instrument that composers of his time typically did not spotlight, because he believed that it would accurately mirror the pipes a faun might play while gallivanting through the woods.

The theme enters and exits the piece, often resurfacing in slightly different forms and combining with other musical fragments to create a whole. The interplay of these dabs, bursts, and dashes of sound create impressions of, among other things, frivolity, intoxication, bliss, natural grandeur, and placidity. The composition is about as close as one can get sonically to the visual stylings of impressionist painters like Monet, whose paintings were built with abbreviated brushstrokes. This musical interplay is also quite effective. One critic declared that the music "evokes the scene as vividly as a master painter could with colors."

GO ON TO THE NEXT PAGE

Questions 21-25 ask about Passage A.

- **21.** When Hawthorne remarked that the faun's ears were "lengthened, but not preposterous" (line 9), he most likely meant that the faun's ears were:
 - **A.** eerily similar to goat ears.
 - **B.** longer than normal, but not too long.
 - C. pointy, but not too pointy.
 - **D.** amusing, but not distracting.
- **22.** Passage A indicates that Hawthorne was:
 - F. an amateur sculptor himself.
 - **G.** visiting Rome for sources of inspiration.
 - **H.** intrigued, unexpectedly, by a sculpture in Rome.
 - **J.** often inspired by mythological creatures.
- **23.** According to Passage A, which of the following real life people or events does Hawthorne incorporate into *The Marble Faun*?
 - **A.** A group of questioning friends
 - **B.** A frolicking faun
 - C. A capering museum patron
 - **D.** A visit to a museum in Rome
- **24.** Like Hawthorne in *The Marble Faun*, the author of Passage A leaves the reader wondering. Which of the following questions did the author of Passage A most likely intentionally leave unanswered?
 - **F.** Did Donatello have pointy ears hidden under his thick curly hair?
 - **G.** Did all of Donatello's friends question his identity, or did one friend know for sure?
 - **H.** How long after the visit to the museum did Donatello act impishly?
 - **J.** Did Donatello have a goatee in addition to his thick curly hair?
- **25.** Passage A suggests which of the following about Hawthorne's writing style?
 - **A.** It was always in synch with the preferences and tastes of the readers of his time.
 - **B.** It evolved during his career as a novelist.
 - **C.** It inspired a movement that transcended the literary world.
 - **D.** It remained largely unchanged throughout his short, but brilliant career.

Questions 26 and 27 ask about Passage B.

- **26.** The first paragraph of Passage B (lines 45-56) suggests that poet Stéphane Mallarmé avoided:
 - **F.** irony in most, but not all, of his poetry.
 - G. symbolic language in "The Afternoon of a Faun."
 - **H.** clear statements in his poetry.
 - **J.** the long lines of flowing melody favored by some composers of classical music.
- **27.** Within Passage B, the reference in lines 73-74 to a series of descending notes was most likely included to explain how Debussy:
 - **A.** highlighted the links that connect a series of dreams that become more and more irrational.
 - **B.** created the sense of falling deeper and deeper into sleep.
 - **C.** suggested the diminishing sensibilities of the mythological faun.
 - **D.** stresses the progression from afternoon to evening in "Prelude to the Afternoon of a Faun."

Questions 28-30 ask about both passages.

- **28.** Both Passage A and Passage B address:
 - **F.** the avoidance of overt statements in literature.
 - **G.** the connections between literature, musical composition, and painting.
 - **H.** evolving themes in both prose and poetry.
 - **J.** the use of the mythological faun to garner commercial success in literature.
- **29.** Based on the description of today's readers in Passage A, modern audiences would likely enjoy which of the following the LEAST:
 - **A.** The suggestive language of "The Afternoon of a Faun" as described in Passage B.
 - **B.** The free interpretative nature of "The Prelude to the Afternoon Faun" as described in Passage B.
 - **C.** The deliberate ambiguity of *The Marble Faun* as described in Passage A.
 - **D.** The lack of uncertainty in *The Scarlet Letter* as described in Passage A.

GO ON TO THE NEXT PAGE

30. Elsewhere in the essay from which Passage B was adapted, the author of Passage B writes:

Director Martin Scorsese employs similar elements in his film *The Departed*. Costigan, an undercover police officer, and Sullivan, a gangster who has joined the police force as an informant, each become romantically involved with a woman named Madolyn at different points in the movie. While the film suggests that Sullivan has had reproductive issues in the past, Scorsese fails to give viewers the satisfaction of knowing which man is the biological father of the baby Madolyn gives birth to at the end of the movie.

Based on Passage A and Passage B, which of the following statements is most likely true?

- **F.** Audiences of the mid 1800s would have enjoyed *The Departed*.
- **G.** Mallarmé would have enjoyed the suggestive aspect of *The Departed*.
- **H.** Debussy would not have enjoyed the musical score of *The Departed*.
- **J.** Hawthorne would not have enjoyed the ambiguous aspect of *The Departed*.

Passage IV

Natural Science: The following passage is adapted from "Relativity: The Special and General Theory" by Albert Einstein.

Apart from the difficulty associated with uniform particle motion, there is a second fundamental difficulty with classical celestial mechanics. This second difficulty was first discussed in detail by the astronomer 5 Seeliger. In his published works, Seeliger encouraged readers to consider the universe as a whole. He then challenged them to describe such universe in words.

If we were to think about the universe for a moment as Seeliger envisioned it, we might quickly come to the conclusion that, with regard to space, the universe is infinite. In other words, we might say that the universe goes on forever without limit. If we were then asked to comment on the stars existing within the universe, we might add that there are stars everywhere and are evenly distributed throughout the universe. In other words, we might say that no matter how far we might travel through space, we would expect to find

everywhere, stars of approximately the same kind and density.

This view, however, is not in harmony with the classical celestial theory of the physicist Newton, which requires that the universe have a center. This center, Newton theorized, would be identifiable because it is there that the density of stars would be greatest.

25 Accordingly, if we were to proceed outwards through space from this center, we would observe an ever-diminishing density of stars until finally, at some great distance from the center, we would enter an infinite region of emptiness.

Unfortunately, Newton's conception of the universe lacks theoretical rigor and it is not very satisfactory because it leads to the conclusion that the light emitted by stars, especially those stars farthest from the center, is perpetually passing out into infinite space, never to return. Such a finite material universe would be destined to become gradually but systematically impoverished.

Unsatisfied with the level of theoretical rigor associated with the works of both Seeliger and Newton, we should turn our attention to non-Euclidean geometry, which has led to the recognition that we can cast doubt on the infiniteness of our universe, which is problematic for the theories of both Seeliger and Newton.

Start by imagining an existence in two-45 dimensional space: flat beings, with flat *things*, free to move about within their two-dimensional world. For them, nothing exists outside of the plane. In contrast to ours, their universe is limited to only two dimensions; like ours, however, theirs extends infinitely. In their 50 universe there is room for a grid composed of an infinite number of identical squares.

Let us now consider a second two-dimensional existence, but this time on a vast spherical surface instead of on a plane. The flat beings fit exactly on the curved surface and they are unable to leave it. Their whole universe of observation extends exclusively over the surface of the sphere. Are these beings able to travel infinitely in one direction (from their perspective, of course)? Yes. Is their universe, thus, infinite? No, it is limited by the surface area of their spherical world. The great charm resulting from this consideration lies in the recognition of the fact that, while the universe of these beings is finite, it seemingly has no limits. Thus, we must remain open to the idea that our own universe is actually finite but seemingly boundless.

- **31.** Which of the following statements most accurately summarizes the author's opinion of the celestial theories of Seeliger and Newton?
 - **A.** Alone each is insufficient, but together they are satisfactory.
 - **B.** They are both based on non-Euclidean geometry.
 - **C.** They are materially similar.
 - **D.** They both lack rigorous theoretical support.
- **32.** Based on the passage, with which of the following conclusions about our universe would the author most likely agree?
 - **F.** While it is limitless, it may be boundless.
 - **G.** While it has a center, it may be a small one.
 - **H.** It may be both finite and limitless.
 - **J.** It may be finite, but it is ever-expanding.
- **33.** According to the passage, Seeliger believed that:
 - **A.** the universe is infinite and without limits.
 - **B.** the universe has a center.
 - **C.** space travel would one day be possible.
 - **D.** the density of stars is highest near the center.
- **34.** The author uses the fourth paragraph (lines 30-37) primarily to:
 - **F.** introduce a new theory.
 - **G.** explain why a theory is unsatisfactory.
 - **H.** argue against the conservation of matter.
 - **J.** explain why non-Euclidean geometry is important.
- **35.** Which of the following questions does the passage NOT answer?
 - **A.** Is the writer satisfied with the theories of Seeliger and Newton?
 - **B.** Does Seeliger's theory require that the universe have a center?
 - **C.** Does Newton's theory require that the universe have a center?
 - **D.** Did Seeliger and Newton colloborate at some point in their careers?

- **36.** According to the passage, the flat two-dimensional world differs from the spherical two-dimensional world in that:
 - **F.** the former is finite, while the latter is infinite.
 - **G.** the former has no limits, but the latter does.
 - **H.** the former is infinite, while the latter is finite.
 - **J.** the former is boundless, but the latter is not.
- **37.** The primary function of fifth paragraph (lines 38-43) is to:
 - **A.** further discredit the theories of both Seeliger and Newton.
 - **B.** introduce a secondary theme that is referenced in the first paragraph.
 - **C.** reinforce the importance of math in celestial physics and theories of the universe.
 - **D.** transition the passage from the discussion of certain theories to a discussion of a field of math that may offer insights into the universe.
- **38.** The author italicized the word *things* in line 45 most likely to acknowledge the use of:
 - **F.** a term of art.
 - **G.** a technical term.
 - **H.** an ambiguous word.
 - **J.** an unsophisticated word.
- **39.** The writer most likely included the parenthetical in lines 58-59 in order to:
 - **A.** remind the reader that the discussion is theoretical in nature.
 - **B.** highlight the limits of a flat, two-dimensional world.
 - **C.** remind the reader of the perspective required to answer the question correctly.
 - **D.** introduce a lighthearted tone to the passage.
- **40.** It can reasonably be inferred from the passage that the author:
 - **F.** values non-Euclidean geometry as a tool for understanding the universe.
 - **G.** enjoys theorizing with colleagues from various disciplines.
 - **H.** has collected empirical data on stars with constant average density.
 - **J.** believes in beings that live in two-dimensional worlds.

END OF TEST