Questions 14-23 are based on the passage.

The following passage is adapted from a 2002 book about modern medicine.

The explanation of pain that has dominated much of medical history originated with René Descartes, more than three centuries ago. Descartes proposed that pain is a purely physical phenomenon—that tissue injury stimulates specific nerves that transmit an impulse to the brain, causing the mind to perceive pain. The phenomenon, he said, is like pulling on a rope to ring a bell in the brain. It is hard to overstate how ingrained this account has become. In everyday medicine, doctors see pain in Descartes's terms—as a physical process, a sign of tissue injury. We look for a ruptured disk or a fracture and we try to fix what's wrong.

The limitations of this mechanistic explanation, however, have been apparent for some time, since people with obvious injuries sometimes report feeling no pain at all. In the 1960s researchers proposed that Descartes's model be replaced with what they called the gate control theory of pain. They argued that before pain signals reach the brain, they must first go through a gating mechanism in the spinal cord, which could ratchet them up or down. In some cases, this hypothetical gate could simply stop pain impulses from getting to the brain.

Their most startling suggestion was that what controlled the gate was not just signals from sensory nerves but also emotions and other "output" from the brain. They were saying that pulling on the rope need not make the bell ring. The bell itself—the mind—could stop it. This theory prompted a great deal of research into how such factors as mood, gender, and beliefs influence the experience of pain. In a British study, for example, researchers measured pain threshold and tolerance levels in 52 ballet dancers and 53 university students by using a common measurement known as the cold pressor test. The test is ingeniously simple. (I tried it at home myself.) After immersing your hand in body-temperature water for two minutes to establish a baseline condition, you dunk your hand in a bowl of ice water and start a clock running. You mark the time when it begins to hurt: that is your pain threshold. Then you mark the time when it hurts too much to keep your hand in the water: that is your pain tolerance. The test is always stopped at 120 seconds, to prevent injury.

The results were striking. On average female students reported pain at 16 seconds and pulled their hands out of the ice water at 37 seconds. Female dancers went almost three times as long on both counts. Men in both groups had a higher threshold and tolerance for pain, but the difference between male dancers and male nondancers was nearly as large. What explains that difference? Probably it has something to do with the psychology of ballet dancers—a group distinguished by self-discipline, physical fitness, and competitiveness, as well as by a high rate of chronic injury. Their driven personalities and competitive culture evidently inure them to pain.

Other studies along these lines have shown that extroverts have greater pain tolerance than introverts and that, with training, one can diminish one's sensitivity to pain. There is also striking evidence that very simple kinds of mental suggestion can have powerful effects on pain. In one study of 500 patients undergoing dental procedures, those who were given a placebo injection and reassured that it would relieve their pain had the least discomfort—not only less than the patients who got a placebo and were told nothing but also less than the patients who got a real anesthetic without any reassuring comment that it would work. Today it is abundantly evident that the brain is actively involved in the experience of pain and is no mere bell on a string. Today every medical textbook teaches the gate control theory as fact. There's a problem with it, though. It explains people who have injuries but feel no pain, but it doesn't explain the reverse, which is far more common—the millions of people who experience chronic pain, such as back pain, with no signs of injury whatsoever.

Gate control theory accepts Descartes's view that what you feel as pain is a signal from tissue injury transmitted by nerves to the brain, and it adds the notion that the brain controls a gateway for such an injury signal. But in the case of something like chronic back pain, there often is no injury. So where does the pain come from? The rope and clapper are gone, but the bell is still ringing.

14. The primary purpose of the passage is to

(A) describe how modern research has updated an old explanation
(B) argue for the irrelevance of a popular theory
(C) support a traditional view with new data
(D) promote a particular attitude toward physical experience
(E) propose an innovative treatment for a medical condition

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15. Which statement best describes Descartes's theory of pain as presented in lines 3-8 ("Descartes . . . brain") ?

(A) The brain can shut pain off at will.
(B) The brain plays no part in the body's experience of pain.
(C) Pain can be triggered in many different ways.
(D) Pain is a highly personal phenomenon.
(E) Pain is an automatic response to bodily injury.

16. In line 11, "sign" most nearly means

(A) symbol
(B) gesture
(C) image
(D) indication
(E) omen

17. The author implies that the reason the gate control theory was "startling" (line 23) was that it

(A) offered an extremely novel explanation
(B) ran counter to people's everyday experiences
(C) undermined a respected philosopher's reputation
(D) was grounded in an incomprehensible logic
(E) was so sensible it should have been proposed centuries before

18. The author does which of the following in lines 25-27 ("They . . . it") ?

(A) Employs a previously used comparison to explain a newly introduced idea
(B) Cites an aforementioned study to disprove a recently published claim
(C) Signals a digression from the main line of the argument
(D) Invokes figurative language to note the drawbacks of an approach
(E) Uses personification to explicate the intricacies of a theory

19. In line 49, "psychology" most nearly means

(A) mental makeup
(B) emotional trauma
(C) manipulative behavior
(D) clinical investigation
(E) underlying meaning

20. The author suggests that "extroverts" (line 55) are like ballet dancers with respect to their

(A) reaction to social situations
(B) sense of group identity
(C) response to physical stimuli
(D) need for the attention of others
(E) peculiar attraction to suffering

21. A defender of the gate control theory would most logically argue that the "problem" (line 68) may lie not with the theory but with

(A) medical professionals' unwillingness to accept it as a thoroughly verified hypothesis
(B) diagnostic tools that cannot detect the injuries causing currently inexplicable conditions
(C) doctors who misdiagnose intermittent pain as chronic pain
(D) the unfortunate tendency to medicate even minor ailments
(E) the willingness of people to subject themselves to stresses that lead to unconventional injuries

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Questions 17-25 are based on the following passage.

In the following passage, adapted from a 2002 novel, a young woman named Harriet Cleve is thinking about a house, now in ruins, that once belonged to her family.

The house, amusingly, had been called Tribulation. Judge Cleve's grandfather had named it that because he claimed the building of it had very nearly killed him. Nothing remained of it but the twin chimneys and the mossy brick wall—the bricks worked in a tricky herringbone pattern—leading from the foundation down to the front steps where five cracked tiles on the riser, in faded blue, spelled the letters C-L-E-V-E.

To Harriet, these five tiles were a fascinating relic of a lost civilization. To her, their fine, watery blue was the blue of wealth, of memory, of Europe, of heaven; and the Tribulation she deduced from them glowed with the phosphorescence and splendor of dream itself. In her mind, her dead ancestors moved like royalty through the rooms of this lost palace.

Apart from the tiles, few concrete artifacts of Tribulation remained. Most of the rugs and fixtures—the marble statues, the chandelier—had been carted off in crates marked Miscellaneous and sold to an antiques dealer in Greenwood who'd paid only half what they were worth.

How then to reconstruct this extinct colossus? What fossils were left, what clues had she to go on? The foundation was still there, out from town a bit. She wasn't sure exactly where, and somehow it didn't matter. Only once, on a winter afternoon long ago, had she been taken out to see it. To a small child, it gave the impression of having supported a structure far larger than a house, a city almost. She had a memory of her grandmother Edie (tomboyish in khaki trousers) jumping excitedly from room to room, her breath coming out in white clouds, pointing out the parlor, the dining room, the library—though all this was hazy.

A scattering of lesser artifacts had been salvaged from Tribulation—linens, monogrammed dishes, a ponderous rosewood sideboard, vases, china clocks, dining room chairs—and broadcast through her own house and the houses of her aunts: random fragments, a legbone here, a vertebra there, from which Harriet set about reconstructing the burned magnificence she had never seen. And these rescued artifacts beamed with a serene light all their own: the silver was heavier, the embroideries richer, the crystal more delicate, and the porcelain a finer, rarer blue. But most eloquent of all were the stories passed down to her—highly decorated items that Harriet embellished even further in her resolute myth of the enchanted alcazar, the fairy château* that never was. She possessed, to a singular and uncomfortable degree, the narrowness of vision that enabled all the Cleves to forget what they didn't want to remember and to exaggerate or otherwise alter what they couldn't forget; and in restringing the skeleton of the extinct monstrosity that had been her family's fortune, she was unaware that some of the bones had been tampered with; that others belonged to different animals entirely; that a great many of the more massive and spectacular bones were not bones at all but plaster-of-Paris forgeries. (The famous Bohemian chandelier, for instance, had not come from Bohemia at all; it was not even made of crystal; the judge's mother had ordered it from a catalog.) Least of all did she realize that constantly in the course of her labors she trod back and forth on certain humble, dusty fragments that, had she bothered to examine them, afforded the true—and rather disappointing—key to the entire structure. The mighty, thundering, opulent Tribulation that she had so laboriously reconstructed in her mind was not a replica of any house that had ever existed but a chimera, a fairy tale.

*Alcazar is a Spanish palace; a château is a large French country house.

17. The primary focus of the passage is on how

(A) Harriet rejects her youthful illusions
(B) Harriet interprets her family's history
(C) Harriet discovers heirlooms at her family's home
(D) the Cleves maintained their lavish lifestyle
(E) each of the Cleves responded to misfortune

18. Lines 9-15 ("To . . . palace") characterize Harriet primarily as

(A) enthusiastic about art and antiques
(B) inclined to be analytical and detail oriented
(C) troubled by her family's legacy
(D) fascinated by cultural history
(E) prone to romantic reverie

19. Lines 22-24 ("The foundation . . . matter") suggest what about Harriet's attitude toward visiting the house?

(A) She does not believe there is anything left of the house.
(B) She worries about trespassing on someone else's property.
(C) She feels no need to revisit the physical remains of the house.
(D) She has no interest in rebuilding the family estate.
(E) She is uneasy about exploring a deserted neighborhood.

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20. In line 36, the word "broadcast" suggests that the artifacts were

(A) displayed openly
(B) advertised publicly
(C) announced loudly
(D) glorified excessively
(E) distributed widely

21. In what way is the "myth" mentioned in line 45 "resolute"?

(A) It has endured over many generations of Cleves.
(B) It has not been refuted by historical records.
(C) It demonstrates Harriet's steadfast support of family members.
(D) It reflects Harriet's determination to maintain a certain view.
(E) It underscores the universal appeal of a type of story.

22. In lines 46-50 ("She . . . forget"), the narrator implies that the Cleve family employed memory primarily as a means of

(A) enhancing mental alertness
(B) protecting cherished beliefs
(C) healing family divisions
(D) inspiring family achievements
(E) reinforcing a fatalistic worldview

23. The narrator's account of the "Bohemian chandelier" (lines 55-58) serves to

(A) provide an example of a recurrent phenomenon
(B) indicate surprise about an unexpected discovery
(C) offer an explanation for an apparent incongruity
(D) illustrate the source of a profound disappointment
(E) suggest the great value of an inherited artifact

24. The narrator suggests that the "key" (line 62) would have given Harriet

(A) unlimited access to the house
(B) a false solution to the mystery
(C) a realistic understanding of the past
(D) an opportune moment to pursue new interests
(E) a strong obligation to keep the family's secret

25. The final sentence of the passage (lines 62-65) indicates what about the house Harriet's grandfather built?

(A) It was not as much of a tribulation as Harriet has always been told.
(B) It had never actually been owned by Harriet's family.
(C) It was not as palatial as Harriet imagines it to be.
(D) It was deliberately destroyed by Harriet's family.
(E) It would have been a very comfortable home for Harriet as a child.

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.

The passage below is followed by questions based on its content. Answer the questions on the basis of what is stated or implied in the passage and in any introductory material that may be provided.

Questions 7-19 are based on the following passage.

In this passage adapted from a 1999 memoir by a published writer, the author reflects on one of her childhood experiences with her grandmother in the 1950s.

My first commissioned work was to write letters for her. "You write for me, honey?" she would say, holding out a ballpoint she had been given at a grocery store promotion, clicking it like a castanet. My fee was cookies and milk, payable before, during, and after completion of the project.

I settled down at her kitchen table while she rooted around the drawer where she kept coupons and playing cards and pieces of stationery. The paper was so insubstantial even ballpoint ink seeped through the other side. "That's OK," she would say. "We only need one side."

True. In life she was a gifted gossip, unfurling an extended riff of chatter from a bare motif of rumor. But her writing style displayed a brevity that made Hemingway's prose look like nattering garrulity. She dictated her letters as if she were paying by the word.

"Dear Sister," she began, followed by a little time-buying cough and throat clearing. "We are all well here." Pause. "And hope you are well too." Longer pause, the steamy broth of inspiration heating up on her side of the table. Then, in a lurch, "Winter is hard so I don't get out much."

This was followed instantly by an unconquerable fit of envy: "Not like you in California." Then she came to a complete halt, perhaps demoralized by this evidence that you can't put much on paper before you betray your secret self, try as you will to keep things civil.

She sat, she brooded, she stared out the window. She was locked in the perverse reticence of composition. She gazed at me, but I understood she did not see me. She was looking for her next thought. "Read what I wrote," she would finally say, having lost not only what she was looking for but what she already had pinned down. I went over the little trail of sentences that led to her dead end.

More silence, then a sigh. "Put 'God bless you,' " she said. She reached across to see the lean rectangle of words on the paper. "Now leave some space," she said, "and put 'Love.' " I handed over the paper for her to sign.

She always asked if her signature looked nice. She wrote her one word—Teresa—with a flourish. For her, writing was painting, a visual art, not declarative but sensuous.

She sent her lean documents regularly to her only remaining sister, who lived in Los Angeles, a place she had not visited. They had last seen each other as children in their village in Central Europe. But she never mentioned that or anything from that world. There was no taint of reminiscence in her prose.

Even at ten I was appalled by the minimalism of these letters. They enraged me. "Is that all you have to say?" I would ask her, a nasty edge to my voice.

It wasn't long before I began padding the text. Without telling her, I added an anecdote my father had told at dinner the night before, or I conducted this unknown reader through the heavy plot of my brother's attempt to make first string on the St. Thomas hockey team. I allowed myself a descriptive aria on the beauty of Minnesota winters (for the benefit of my California reader who might need some background material on the subject of ice hockey). A little of this, a little of that—there was always something I could toss into my grandmother's meager soup to thicken it up.

Of course, the protagonist of the hockey tale was not "my brother." He was "my grandson." I departed from my own life without a regret and breezily inhabited my grandmother's. I complained about my hip joint, I bemoaned the rising cost of hamburger, and hinted at the inattention of my son's wife (that is, my own mother, who was next door, oblivious to treachery).

In time, my grandmother gave in to the inevitable. Without ever discussing it, we understood that when she came looking for me, clicking her ballpoint, I was to write the letter, and her job was to keep the cookies coming. I abandoned her skimpy floral stationery which badly cramped my style, and thumped down on the table a stack of ruled 8½ x 11.

"Just say something interesting," she would say. And I was off to the races.

I took over her life in prose. Somewhere along the line, though, she decided to take full possession of her sign-off. She asked me to show her how to write "Love" so she could add it to "Teresa" in her own hand. She practiced the new word many times on scratch paper before she allowed herself to commit it to the bottom of a letter.

But when she finally took the leap, I realized I had forgotten to tell her about the comma. On a single slanting line she had written: *Love Teresa.* The words didn't look like a closure, but a command.

7. In the opening paragraph, the author characterizes writing letters for her grandmother as a

(A) privilege
(B) favor
(C) business transaction
(D) dreaded responsibility
(E) punishment

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8. In line 26, "betray" most nearly means

(A) tempt
(B) deceive
(C) desert
(D) disappoint
(E) reveal

9. The sentence beginning with "More silence" (line 35) primarily emphasizes the grandmother's sense of

(A) anticipation
(B) resignation
(C) despair
(D) satisfaction
(E) resolve

10. The sentence in lines 40-42 ("For her . . . sensuous") serves primarily to explain why the grandmother

(A) asked her granddaughter to reread her letters
(B) had not felt it necessary to learn to write
(C) was very particular about the style of her stationery
(D) sought approval regarding the appearance of her signature
(E) thought it was important for her granddaughter to write well

11. The granddaughter's question in line 50 primarily conveys her

(A) belief that her grandmother's letters did not offer enough details
(B) determination to include everything her grandmother wanted to say
(C) resentment about having to write letters for her grandmother
(D) irritation that her grandmother was avoiding certain painful subjects
(E) sense that her grandmother did not write to her sister often enough

12. The granddaughter's actions in lines 52-62 ("It . . . up") are motivated by her desire to

(A) have a more interesting life
(B) write a more entertaining letter
(C) make her grandmother happy
(D) encourage her grandmother's sister to visit
(E) develop her own skills as a writer

13. The parenthetical reference in lines 58-60 serves to

(A) explain why the grandmother envied her sister in California
(B) suggest that the child found writing letters for her grandmother to be rewarding
(C) give an example of a subject that the grandmother asked her granddaughter to write about
(D) highlight the granddaughter's desire to have others appreciate her writing skills
(E) emphasize the granddaughter's sense of tailoring her writing to an audience

14. In line 62, "meager soup" refers to the

(A) emotional ties between family members
(B) grandmother's modest lifestyle
(C) grandmother's limited writing skills
(D) substance of the grandmother's letter
(E) meals served by the grandmother

15. The granddaughter's attitude in lines 63-69 ("Of course . . . treachery") is best described as

(A) guilty
(B) wary
(C) conscientious
(D) optimistic
(E) self-satisfied

16. The granddaughter used "ruled 8½ x 11" (line 76) paper because she

(A) disliked the floral pattern on her grandmother's stationery
(B) began to view the letter writing as an onerous assignment
(C) assumed that she would teach her grandmother how to write
(D) required more space than her grandmother's stationery provided
(E) anticipated having to write multiple letters for her grandmother

17. The phrase "off to the races" (line 78) indicates that the author

(A) viewed writing as a game
(B) plunged enthusiastically into her task
(C) rushed to finish the letters as quickly as possible
(D) avoided a direct request
(E) became extremely competitive

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Correct Answers and Difficulty Levels
Form Codes AEHA, BWHA

Critical Reading

Section 3

	COR. ANS.	DIFF. LEV.
1.	C	1
2.	E	1
3.	B	3
4.	B	2
5.	D	3
6.	D	5
7.	C	5
8.	C	5
9.	B	3
10.	E	3
11.	A	3
12.	A	1
13.	B	3
14.	A	3
15.	E	3
16.	D	1
17.	A	5
18.	A	3
19.	A	2
20.	C	2
21.	B	3
22.	C	2
23.	D	3

Number correct

Number incorrect

Section 4

	COR. ANS.	DIFF. LEV.
1.	D	1
2.	C	1
3.	A	3
4.	E	3
5.	B	5
6.	B	1
7.	E	3
8.	B	3
9.	B	5
10.	A	3
11.	E	3
12.	B	1
13.	D	3
14.	D	4
15.	A	5
16.	B	2
17.	B	3
18.	E	5
19.	C	3
20.	E	5
21.	D	3
22.	B	3
23.	A	5
24.	C	3
25.	C	4

Number correct

Number incorrect

Section 9

	COR. ANS.	DIFF. LEV.
1.	B	1
2.	B	1
3.	D	2
4.	C	3
5.	C	4
6.	D	4
7.	C	2
8.	E	2
9.	B	5
10.	D	3
11.	A	3
12.	B	2
13.	E	3
14.	D	3
15.	E	4
16.	D	4
17.	B	2
18.	D	3
19.	A	3

Number correct

Number incorrect

Mathematics

Section 2

Multiple-Choice Questions

	COR. ANS.	DIFF. LEV.
1.	C	1
2.	C	1
3.	E	2
4.	E	2
5.	C	3
6.	B	4
7.	D	3
8.	A	4

Number correct

Number incorrect

Student-Produced Response Questions

	COR. ANS.	DIFF. LEV.
9.	.125,1/8	2
10.	1,36,81,256	2
11.	20	2
12.	16	3
13.	4	3
14.	420	3
15.	4	3
16.	1080	4
17.	1/3,.333	4
18.	61	4

Number correct (9-18)

Section 5

	COR. ANS.	DIFF. LEV.
1.	C	1
2.	A	1
3.	B	2
4.	D	1
5.	A	2
6.	A	2
7.	D	2
8.	A	2
9.	E	3
10.	E	3
11.	D	3
12.	B	3
13.	C	3
14.	D	3
15.	D	3
16.	C	4
17.	E	4
18.	E	4
19.	B	5
20.	E	5

Number correct

Number incorrect

Section 8

	COR. ANS.	DIFF. LEV.
1.	C	1
2.	E	1
3.	C	1
4.	A	1
5.	D	1
6.	A	2
7.	B	3
8.	D	3
9.	C	3
10.	B	4
11.	E	4
12.	A	4
13.	D	3
14.	A	4
15.	B	4
16.	D	4

Number correct

Number incorrect

Writing Multiple Choice

Section 7

	COR. ANS.	DIFF. LEV.
1.	D	1
2.	E	1
3.	C	1
4.	D	2
5.	D	2
6.	A	2
7.	C	2
8.	A	4
9.	E	5
10.	A	4
11.	D	5
12.	D	1
13.	D	1
14.	A	1
15.	A	2
16.	B	2
17.	A	2
18.	E	2
19.	B	3
20.	E	2
21.	A	2
22.	D	3
23.	A	4
24.	E	2
25.	D	3
26.	A	4
27.	C	3
28.	A	4
29.	A	5
30.	B	3
31.	D	3
32.	E	3
33.	B	2
34.	E	4
35.	D	3

Number correct

Number incorrect

Section 10

	COR. ANS.	DIFF. LEV.
1.	D	1
2.	D	1
3.	D	1
4.	C	2
5.	D	2
6.	B	2
7.	A	3
8.	E	3
9.	C	3
10.	D	3
11.	E	3
12.	C	4
13.	B	4
14.	E	5

Number correct

Number incorrect

NOTE: Difficulty levels are estimates of question difficulty for a reference group of college-bound seniors. Difficulty levels range from 1 (easiest) to 5 (hardest).