
PRACTICE TEST 3

ANSWER SHEET

Last Name: _____ First Name: _____

Date: _____ Testing Location: _____

Administering the Test

- **Remove this answer sheet** from the book and use it to record your answers to this test.
- This test will require **2 hours and 10 minutes** to complete. Take this test in one sitting.
- Use a stopwatch to time yourself on each section. The time limit for each section is written clearly at the beginning of each section. The first four sections are 25 minutes long, and the last section is 30 minutes long.
- Each response must **completely fill the oval**. **Erase all stray marks completely**, or they may be interpreted as responses.
- **You must stop ALL work on a section when time is called.**
- If you finish a section before the time has elapsed, check your work on that section. **You may NOT move on to the next section until time is called.**
- Do not waste time on questions that seem too difficult for you.
- Use the test book for scratchwork, but you will only receive credit for answers that are marked on the answer sheets.

Scoring the Test

- Your scaled score, which will be determined from a conversion table, is based on your raw score for each section.
- You will receive one point toward your raw score for every correct answer.
- You will receive no points toward your raw score for an omitted question.
- For each wrong answer on a multiple-choice question, your raw score will be reduced by 1/4 point. For each wrong answer on a numerical “grid-in” question (Section 4, questions 29–38), your raw score will receive no deduction.

<p>SECTION 1 Critical Reading 25 minutes</p>	1. (A) (B) (C) (D) (E)	9. (A) (B) (C) (D) (E)	17. (A) (B) (C) (D) (E)	<p>Time: 25 minutes</p> <p>Start: _____</p> <p>Stop: _____</p>
	2. (A) (B) (C) (D) (E)	10. (A) (B) (C) (D) (E)	18. (A) (B) (C) (D) (E)	
	3. (A) (B) (C) (D) (E)	11. (A) (B) (C) (D) (E)	19. (A) (B) (C) (D) (E)	
	4. (A) (B) (C) (D) (E)	12. (A) (B) (C) (D) (E)	20. (A) (B) (C) (D) (E)	
	5. (A) (B) (C) (D) (E)	13. (A) (B) (C) (D) (E)	21. (A) (B) (C) (D) (E)	
	6. (A) (B) (C) (D) (E)	14. (A) (B) (C) (D) (E)	22. (A) (B) (C) (D) (E)	
	7. (A) (B) (C) (D) (E)	15. (A) (B) (C) (D) (E)	23. (A) (B) (C) (D) (E)	
	8. (A) (B) (C) (D) (E)	16. (A) (B) (C) (D) (E)	24. (A) (B) (C) (D) (E)	

<p>SECTION 2 Math 25 minutes</p>	1. (A) (B) (C) (D) (E)	9. (A) (B) (C) (D) (E)	17. (A) (B) (C) (D) (E)	<p>Time: 25 minutes</p> <p>Start: _____</p> <p>Stop: _____</p>
	2. (A) (B) (C) (D) (E)	10. (A) (B) (C) (D) (E)	18. (A) (B) (C) (D) (E)	
	3. (A) (B) (C) (D) (E)	11. (A) (B) (C) (D) (E)	19. (A) (B) (C) (D) (E)	
	4. (A) (B) (C) (D) (E)	12. (A) (B) (C) (D) (E)	20. (A) (B) (C) (D) (E)	
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	7. (A) (B) (C) (D) (E)	15. (A) (B) (C) (D) (E)		
	8. (A) (B) (C) (D) (E)	16. (A) (B) (C) (D) (E)		

<p>SECTION 3 Critical Reading 25 minutes</p>	25. (A) (B) (C) (D) (E)	33. (A) (B) (C) (D) (E)	41. (A) (B) (C) (D) (E)	<p>Time: 25 minutes</p> <p>Start: _____</p> <p>Stop: _____</p>
	26. (A) (B) (C) (D) (E)	34. (A) (B) (C) (D) (E)	42. (A) (B) (C) (D) (E)	
	27. (A) (B) (C) (D) (E)	35. (A) (B) (C) (D) (E)	43. (A) (B) (C) (D) (E)	
	28. (A) (B) (C) (D) (E)	36. (A) (B) (C) (D) (E)	44. (A) (B) (C) (D) (E)	
	29. (A) (B) (C) (D) (E)	37. (A) (B) (C) (D) (E)	45. (A) (B) (C) (D) (E)	
	30. (A) (B) (C) (D) (E)	38. (A) (B) (C) (D) (E)	46. (A) (B) (C) (D) (E)	
	31. (A) (B) (C) (D) (E)	39. (A) (B) (C) (D) (E)	47. (A) (B) (C) (D) (E)	
	32. (A) (B) (C) (D) (E)	40. (A) (B) (C) (D) (E)	48. (A) (B) (C) (D) (E)	

SECTION 4
Math
25 minutes

21. (A) (B) (C) (D) (E) 25. (A) (B) (C) (D) (E)
 22. (A) (B) (C) (D) (E) 26. (A) (B) (C) (D) (E)
 23. (A) (B) (C) (D) (E) 27. (A) (B) (C) (D) (E)
 24. (A) (B) (C) (D) (E) 28. (A) (B) (C) (D) (E)

Time: 25 minutes
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SECTION 5
Writing Skills
30 minutes

1. (A) (B) (C) (D) (E) 14. (A) (B) (C) (D) (E) 27. (A) (B) (C) (D) (E)
 2. (A) (B) (C) (D) (E) 15. (A) (B) (C) (D) (E) 28. (A) (B) (C) (D) (E)
 3. (A) (B) (C) (D) (E) 16. (A) (B) (C) (D) (E) 29. (A) (B) (C) (D) (E)
 4. (A) (B) (C) (D) (E) 17. (A) (B) (C) (D) (E) 30. (A) (B) (C) (D) (E)
 5. (A) (B) (C) (D) (E) 18. (A) (B) (C) (D) (E) 31. (A) (B) (C) (D) (E)
 6. (A) (B) (C) (D) (E) 19. (A) (B) (C) (D) (E) 32. (A) (B) (C) (D) (E)
 7. (A) (B) (C) (D) (E) 20. (A) (B) (C) (D) (E) 33. (A) (B) (C) (D) (E)
 8. (A) (B) (C) (D) (E) 21. (A) (B) (C) (D) (E) 34. (A) (B) (C) (D) (E)
 9. (A) (B) (C) (D) (E) 22. (A) (B) (C) (D) (E) 35. (A) (B) (C) (D) (E)
 10. (A) (B) (C) (D) (E) 23. (A) (B) (C) (D) (E) 36. (A) (B) (C) (D) (E)
 11. (A) (B) (C) (D) (E) 24. (A) (B) (C) (D) (E) 37. (A) (B) (C) (D) (E)
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 13. (A) (B) (C) (D) (E) 26. (A) (B) (C) (D) (E) 39. (A) (B) (C) (D) (E)

Time: 30 minutes
 Start: _____
 Stop: _____

Section 1

Time—25 minutes

24 Questions (1–24)

Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five words or sets of words labeled A through E. Choose the word or set of words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

Example:

Medieval kingdoms did not become constitutional republics overnight; on the contrary, the change was -----.

- (A) unpopular
- (B) unexpected
- (C) advantageous
- (D) sufficient
- (E) gradual

Correct response: (E)

1

The *varicella* virus, also known as the chicken pox virus, remains ----- in the nervous system, unbeknown to the host, and can reappear later in life as a condition known as “shingles.”

- (A) lukewarm
- (B) dormant
- (C) solitary
- (D) active
- (E) aggressive

2

The ----- businessman ----- his unsuspecting partner of 15 years, embezzling large sums of money and secretly wiring it to his bank account in the Cayman Islands.

- (A) deceitful . . swindled
- (B) duplicitous . . supported
- (C) admirable . . rebuked
- (D) ambidextrous . . accommodated
- (E) ethical . . duped

3

André showed a great ----- for computers as a child; he wrote his first program at the age of seven when most kids barely even knew what a computer was.

- (A) tolerance
- (B) atrophy
- (C) aptitude
- (D) skepticism
- (E) antagonism

4

While her camp friends thought it was natural for her to feel so ----- after she broke up with her boyfriend of three years, her incessant crying and ----- demeanor were starting to get on their nerves.

- (A) mystified . . sanguine
- (B) elated . . meticulous
- (C) jubilant . . disheartened
- (D) irate . . jocular
- (E) despondent . . melancholy

5

“Rite of Spring” by twentieth-century Russian-American composer Igor Stravinsky is ----- masterpiece to the enthusiasts of his work; but many cannot believe that the ----- produced in this piece is anything more than dissonance set to irregular rhythms.

- (A) a sublime . . harmony
- (B) a mortifying . . dissonance
- (C) an abstract . . benevolence
- (D) an aesthetic . . cacophony
- (E) a trivial . . punctiliousness

Each passage below is followed by one or two questions based on its content. Answer each question based on what is stated or implied in the passage introductory material preceding it.

This excerpt from a geological textbook discusses the broad effects of volcanoes.

Line Volcanoes are crucibles of change and are held
in fascination mainly for their awesome powers
of destruction. In the span of human life, they
can change a landscape from jungle to desert,
5 degrade the global climate, induce great floods,
and even bury entire cities. Yet, volcanoes are
ultimately benevolent. The oceans in which life
began, and the lakes, rivers, and groundwaters
that renew and sustain life, are all condensed
10 volcanic steam that was produced during
countless eruptions over billions of years. The
very air we breathe is a store of volcanic vapors.
Wondrously fertile volcanic soils yield
sustenance for millions in tropical and
15 temperate regions. Volcanic geothermal
systems that breach the surface as soothing hot
springs are also clean, safe, and renewable
sources of electrical energy. The tallest
volcanoes wring moisture from passing clouds,
20 creating glaciers as well as tumbling rivers that
endow us with hydroelectric power.

6 The passage indicates that the water on the earth's surface

- (A) is one of the main causes of volcanic activity
- (B) originated beneath the earth's surface
- (C) diminishes in abundance as more volcanoes become active
- (D) can temper the damaging effects of volcanoes
- (E) is more toxic in areas around active volcanoes

7 The passage indicates that volcanic activity affects the abundance of all of the following EXCEPT

- (A) atmospheric gases
- (B) moisture in certain climates
- (C) glaciers
- (D) insects
- (E) arable soil

The following is from a textbook on logic written in 1986.

Line What is reasoning? It is an inference, or chain
of inferences. An inference is a mental state or
process in which one or more beliefs support or
lead to another belief. Thus I may observe that
5 Bob has a temperature, and infer that he is sick.
From the fact that Bob is sick, I may infer
further that he should rest. I have described two
inferences which constitute a two-step
reasoning process. Inferences can be expressed
10 in language in another way, as arguments. An
argument is a sequence of statements some of
which are offered as providing a sufficient
reason to believe the others. The supporting
statements are called premises; the statements
15 they support are called conclusions. An
argument, therefore, is a linguistic unit in
which premises are stated from which
conclusions are drawn.

8 The main purpose of this passage is to provide

- (A) a brief history of a phenomenon
- (B) a humorous vignette
- (C) a justification of a position
- (D) a set of definitions
- (E) a refutation of a common misconception

9 If the statements in lines 4–7 constitute a single argument, then which of the following represent all of the “premises” among these statements?

- (A) None of these statements are premises.
- (B) Bob has a temperature AND Bob is sick.
- (C) Bob is sick AND Bob should rest.
- (D) Bob has a temperature AND Bob should rest.
- (E) Bob has a temperature AND Bob is sick AND Bob should rest.

First paragraph: from *Volcanoes: Crucibles of Change*, Richard V. Fisher, Grant Heiken, and Jeffrey Hulen. © 1997 Princeton University Press, Page xiii Second paragraph: *An Introduction to Logic*, Davis, Wayne, ©1986 Prentice-Hall. p. 1

GO ON TO THE NEXT PAGE ▶▶▶

The questions below are based on the content of the passage that precedes them. The questions are to be answered on the basis of what is stated or implied in the passage or in the introductory material that precedes the passage.

Questions 10–16 are based on the following passage.

The following passage is an excerpt from a story written by a German writer in 1966.

Line None of my friends can understand the care
with which I preserve a scrap of paper that has
no value whatever: it merely keeps alive the
memory of a certain day in my life, and to it
5 I owe a reputation for sentimentality which is
considered unworthy of my social position:
I am the assistant manager of a textile firm. But
I protest the accusation of sentimentality and
am continually trying to invest this scrap of
10 paper with some documentary value. It is a tiny,
rectangular piece of ordinary paper, the size,
but not the shape, of a stamp—it is narrower
and longer than a stamp—and although it
originated in the post office it has not the
15 slightest collector’s value. It has a bright red
border and is divided by another red line into
two rectangles of different sizes; in the smaller
of these rectangles there is a big black R, in the
larger one, in black print, “Düsseldorf” and a
20 number—the number 634. That is all, and the
bit of paper is yellow and thin with age, and
now that I have described it minutely I have
decided to throw it away: an ordinary
registration sticker, such as every post office
25 slaps on every day by the dozen.

And yet this scrap of paper reminds me of a
day in my life which is truly unforgettable,
although many attempts have been made to
erase it from my memory. But my memory
30 functions too well.

First of all, when I think of that day, I smell
vanilla custard, a warm sweet cloud creeping
under my bedroom door and reminding me of
my mother’s goodness: I had asked her to make
35 some vanilla ice cream for my first day of
vacation, and when I woke up I could smell it.

In the kitchen my mother was humming a
tune. It was a hymn. I felt very happy. Then I
heard my mother coming to listen at my door;
40 she crossed the hall, stopped by my door, it was
silent for a moment in our apartment, and I was

just about to call “Mother” when the bell rang
downstairs. My mother went to our front door,
and I heard a man’s voice, and I knew at once it
45 was the mailman, although I had only seen him
a few times. It was very quiet for a moment, the
mailman said “Thanks,” my mother closed
the door after him, and I heard her go back
into the kitchen.

50 Nobody will believe it, but my heart
suddenly felt heavy. I don’t know why, but it
was heavy. I could no longer hear the coffee
mill. I put on my shirt and trousers, socks and
shoes, combed my hair and went into the
55 living room.

Mother came in from the kitchen carrying
the coffeepot and I saw at once she had been
crying. In one hand she was holding the
coffeepot, in the other a little pile of mail, and
60 her eyes were red. I went over to her, took the
pot from her, kissed her cheek and said: “Good
morning.” She looked at me, said: “Good
morning, did you sleep well?” and tried to
smile, but did not succeed.

65 “Was there any mail?” I asked, a senseless
question, since Mother’s small red hand was
resting on the little pile on top of which lay the
newspaper. “Yes,” she said, and pushed the pile
toward me. I saw there was a post card, but
70 I had not noticed the registration sticker, that
tiny scrap of paper I still possess and to which
I owe a reputation for sentimentality. When
I reached for the post card I saw it had gone.
My mother had picked it up, she was holding
75 it up and looking at it, and I kept my eyes on
my half-eaten slice of bread, stirred my coffee
and waited.

I shall never forget it. Only once had my
mother ever cried so terribly: when my father
died; and then I had not dared to look at her
either. A nameless diffidence had prevented me
80 from comforting her.

I tried to bite into my bread, but my throat
closed up, for I suddenly realized that what was
85 upsetting Mother so much could only be
something to do with me. Mother said
something I didn’t catch and handed me the
post card, and it was then I saw the registration
sticker: that red-bordered rectangle, divided by
90 a red line into two other rectangles, of which
the smaller one contained a big black R and the
bigger one the word “Düsseldorf” and the
number 634. Otherwise the post card was quite
normal, it was addressed to me and on the back
95 were the words: “Mr. Bruno Schneider: You are

required to report to the Schlieffen Barracks in Adenbrück for eight weeks of military training.”

“Only eight weeks,” I said, and I knew I was lying, and my mother dried her tears, said:

100 “Yes, of course,” we were both lying, without knowing why we were lying, but we were and we knew we were.

10 The first paragraph establishes that the narrator regards his “scrap of paper” (line 2) with

- (A) deep disgust
- (B) sad nostalgia
- (C) ambivalence
- (D) light-hearted amusement
- (E) fear

11 The narrator regards his “reputation for sentimentality” (line 5) as

- (A) a positive trait that he inherited from his mother
- (B) a useful quality in his work environment
- (C) an unrealized goal
- (D) a burden that he carries willingly
- (E) an unwarranted attribution

12 The description in lines 10–20 (“It is a tiny . . . the number 634”) primarily reveals the narrator’s

- (A) attempt to be objective
- (B) uncertainty regarding the origin of the scrap of paper
- (C) efforts to define an emotion
- (D) desire to return to his youth
- (E) depth of historical knowledge

13 The narrator mentions his heart in line 50 in order to

- (A) dispute his reputation for sentimentality
- (B) indicate a dramatic emotional shift
- (C) demonstrate his emotional attachment to his childhood home
- (D) reveal a secret that he had held for a long time
- (E) show that he desired to leave his home to seek adventure

14 The narrator’s question is “senseless” (line 65) because

- (A) his mother cannot hear him
- (B) he already knows the answer
- (C) it is illogical and irrelevant
- (D) he has already asked it
- (E) he is using a term that his mother does not understand

15 The narrator indicates that he did not comfort his mother when his father died because he

- (A) did not know his father well
- (B) was far away from his mother at the time
- (C) was angry with his mother
- (D) lacked confidence
- (E) resented his father

16 The narrator’s comment to his mother after reading the post card in line 98 (““Only eight weeks””) indicates his effort to

- (A) repress a belief
- (B) demonstrate his knowledge of the military
- (C) express his wish to avoid military training
- (D) protest a political injustice
- (E) express unabashed pessimism

The questions below are based on the content of the passage that precedes them. The questions are to be answered on the basis of what is stated or implied in the passage or in the introductory material that precedes the passage.

Questions 17–24 are based on the following passage.

The following passage discusses the scientific debate regarding whether heredity or environment is a more important factor in human development.

Line When Richard Mulcaster referred in 1581 to
 “that treasure . . . bestowed on them by nature,
 to be bettered in them by nurture,” he gave the
 world a euphonious name for an opposition
 5 that has been debated ever since. People’s
 beliefs about the relative importance of

heredity and environment affect their opinions on an astonishing range of topics. Do adolescents engage in violence because of the way their parents treated them early in life? Are people inherently aggressive and selfish, calling for a market economy and a strong police, or could they become peaceable and cooperative, the state to wither and a spontaneous socialism to blossom? Is there a universal aesthetic that allows great art to transcend time and place, or are people's tastes determined by their era and culture? With so much seemingly at stake in so many fields, it is no surprise that debates over nature and nurture evoke more rancor than just about any issue in the world of ideas.

During much of the twentieth century, a common position in this debate was to deny that human nature existed at all—to aver, with José Ortega y Gasset, that “Man has no nature; what he has is history.” The doctrine that the mind is a blank slate was not only a cornerstone of behaviorism in psychology and social constructionism in the social sciences, but also extended widely into mainstream intellectual life.

Part of the blank slate's appeal came from the realization that many differences among people in different classes and ethnic groups that formerly were thought to reflect innate disparities in talent or temperament could vanish through immigration, social mobility, and cultural change. But another part of its appeal was political and moral. If nothing in the mind is innate, then differences among races, sexes, and classes can never be innate, making the blank slate the ultimate safeguard against racism, sexism, and class prejudice. Also, the doctrine ruled out the possibility that ignoble traits such as greed, prejudice, and aggression spring from human nature, and thus held out the hope of unlimited social progress.

Though human nature has been debated for as long as people have pondered their condition, it was inevitable that the debate would be transformed by the recent efflorescence of the sciences of mind, brain, genes, and evolution. One outcome has been to make the doctrine of the blank slate untenable. No one, of course, can deny the importance of learning and culture in all aspects of human life. But cognitive science has shown that there must be complex innate mechanisms for learning and culture to be possible in the first place. Evolutionary psychology has documented hundreds of universals that cut across the world's cultures, and has shown that

many psychological traits (such as our taste for fatty foods, social status, and risky sexual liaisons) are better adapted to the evolutionary demands of an ancestral environment than to the actual demands of the current environment. Developmental psychology has shown that infants have a precocious grasp of objects, intentions, numbers, faces, tools, and language. Behavioral genetics has shown that temperament emerges early in life and remains fairly constant throughout the life span, that much of the variation among people within a culture comes from differences in genes, and that in some cases particular genes can be tied to aspects of cognition, language, and personality. Neuroscience has shown that the genome contains a rich tool kit of growth factors, axon guidance molecules, and cell adhesion molecules that help structure the brain during development, as well as mechanisms of plasticity that make learning possible.

These discoveries not only have shown that the innate organization of the brain cannot be ignored, but have also helped to reframe our very conception of nature and nurture.

17

The author uses the quotation from Richard Mulcaster in lines 2–3 to emphasize the fact that

- (A) many nonscientists are intrigued by biological discoveries
- (B) a controversy has endured for many centuries
- (C) many sixteenth-century beliefs have since been disproved
- (D) adolescents have always been aggressive
- (E) an important discovery was made by a relatively obscure researcher

18

The author uses the terms “wither” and “blossom” in lines 14–15 in order to

- (A) imply that an idea is not as important as it was thought to be
- (B) emphasize the fact that there is no such thing as human nature
- (C) advocate a particular system of government
- (D) criticize a long-standing biological claim
- (E) draw a comparison between social phenomena and natural phenomena

Steven Pinker, “Why nature and nurture won't go away,” *Daedalus*, Fall 2004. ©2004 by the American Academy of Arts & Sciences. Printed with the permission of MIT Press.

GO ON TO THE NEXT PAGE ▶▶▶

- 19** It can be inferred that José Ortega y Gasset's notion of one's "history" (line 26) does NOT include
- (A) voluntary actions
 - (B) reactions to music and art
 - (C) unpleasant experiences
 - (D) conversations with one's peers
 - (E) congenital behavioral tendencies
- 20** The passage indicates that "social constructionism" (lines 28–29) was based on an assumption that
- (A) there is no such thing as human nature
 - (B) people are born with innate skills
 - (C) capitalism is the strongest economic system
 - (D) individuals of different ethnicities were likely to have different temperaments
 - (E) individuals preferred to remain in their own countries rather than immigrate to other countries
- 21** The passage indicates that the "blank slate" theory is appealing to some people because it
- I. suggests that societies can develop without bound
 - II. undermines the basis of prejudice
 - III. reinforces the appropriateness of the current social order
- (A) I only
 - (B) II only
 - (C) I and II only
 - (D) I and III only
 - (E) II and III only
- 22** The purpose of the sentence beginning on line 55 ("No one . . . human life") is to
- (A) present a specific example of learning
 - (B) refute the theory of the blank slate
 - (C) cite the viewpoint of a biological authority
 - (D) qualify the central thesis of the passage
 - (E) support a claim with statistical evidence
- 23** The passage indicates that "fatty foods" (line 64) appeal to most modern humans because
- (A) they are easier to find than low-fat options
 - (B) fat keeps modern humans warm in winter
 - (C) our ancestors benefited from eating such foods
 - (D) most regional cuisines require them
 - (E) they are advertised frequently in the media
- 24** The author suggests that "axon guidance molecules" (line 80) are
- (A) recent discoveries that support the blank slate theory
 - (B) theoretical structures whose existence is in doubt
 - (C) components of human biochemistry that we do not share with our ancestors
 - (D) innate factors that contribute to cognition
 - (E) discoveries that inspired the work of Richard Mulcaster



You may check your work, on this section only, until time is called.

Section 2

Time—25 minutes

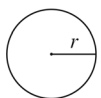
20 Questions (1–20)

Directions for Multiple-Choice Questions

In this section, solve each problem, using any available space on the page for scratchwork. Then decide which is the best of the choices given and fill in the corresponding oval on the answer sheet.

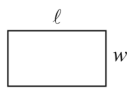
- You may use a calculator on any problem. All numbers used are real numbers.
- Figures are drawn as accurately as possible EXCEPT when it is stated that the figure is not drawn to scale.
- All figures lie in a plane unless otherwise indicated.

Reference Information

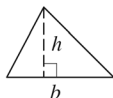


$$A = \pi r^2$$

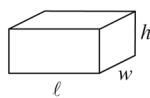
$$C = 2\pi r$$



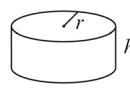
$$A = \ell w$$



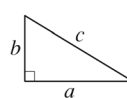
$$A = \frac{1}{2}bh$$



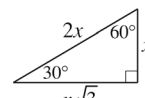
$$V = \ell wh$$



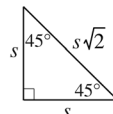
$$V = \pi r^2 h$$



$$c^2 = a^2 + b^2$$



Special Right Triangles



The arc of a circle measures 360° .

Every straight angle measures 180° .

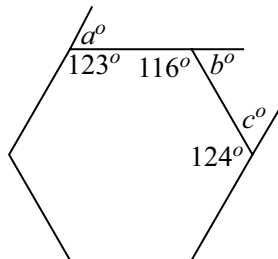
The sum of the measures of the angles in a triangle is 180° .

2

- 1 If $x^2 + 3x + 4 = x^2 + 3x + 4y$, what is the value of y ?

(A) 0
(B) 1
(C) 2
(D) 3
(E) 4

2



Note: Figure not drawn to scale.

In the figure above, what is the sum of $a + b + c$?

(A) 126
(B) 135
(C) 177
(D) 184
(E) 196

- 3 If $\frac{1}{w} = \frac{3}{16}$, then what is the value of w ?

(A) $\frac{4}{3}$
(B) $\frac{5}{3}$
(C) $\frac{10}{3}$
(D) $\frac{16}{3}$
(E) $\frac{19}{3}$

4

A total of 350 signatures is needed for a petition to be considered by the town legislature. If 125 signatures have already been obtained, what percentage of the signatures needed must still be acquired for the petition to be considered?

(A) 32%
(B) 36%
(C) 55%
(D) 64%
(E) 68%

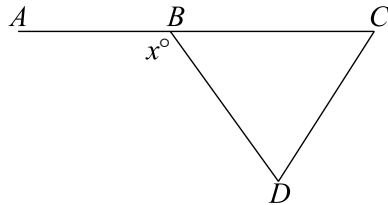
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2

- 5** If p is a positive integer greater than 1, which of the following must be negative?

(A) $5 - p$
 (B) $2p - 6$
 (C) $1 - p$
 (D) $-p + 3$
 (E) $2p + 3$

6



Note: Figure not drawn to scale.

In the figure above, the measure of $\angle CDB = 34^\circ$ and $CD = BD$. What is the value of x ?

(A) 34
 (B) 73
 (C) 94
 (D) 107
 (E) 146

- 7** If $a + b = 6$ and $a - b = 4$, what is the value of $2a + 3b$?

(A) 9
 (B) 10
 (C) 11
 (D) 12
 (E) 13

- 8** The average (arithmetic mean) of -4 , 3 , and x is 2 . What is the value of x ?

(A) 3
 (B) 4
 (C) 5
 (D) 6
 (E) 7

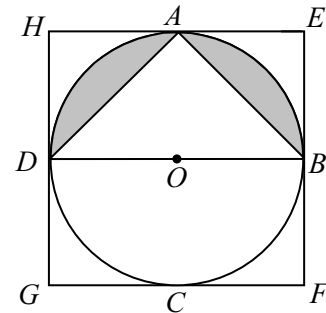
- 9** Which of the following ratios is equal to the ratio of 3 to 4 ?

(A) 6 to 12
 (B) 9 to 16
 (C) 12 to 16
 (D) 12 to 20
 (E) 15 to 25

- 10** A taxi cab fare starts at \$2.25, and \$0.25 is added after each whole mile driven. If a cab ride costs Michelle \$5.00, how many miles did she travel?

(A) between 9 and 10
 (B) between 11 and 12
 (C) between 13 and 14
 (D) between 16 and 17
 (E) between 20 and 21

11



Circle O is tangent to square $EFGH$ at points A , B , C , and D . If A is the midpoint of side HE and the area of square $EFGH$ is 64 , what is the area of the shaded region?

(A) $4\pi + 16$
 (B) $8\pi - 16$
 (C) $16\pi - 8$
 (D) $16\pi - 4$
 (E) $24\pi - 16$

- 12** If $q = p = 3t = 6$, what is the value of $3q - 4p + 2t$?

(A) -4
 (B) -2
 (C) 0
 (D) 2
 (E) 4

- 13** The ACME plastics company requires p pounds of plastic to produce c storage containers. How many containers can be produced from x pounds of plastic?

(A) $\frac{xc}{p}$
 (B) $\frac{px}{c}$
 (C) xcp
 (D) $\frac{xp}{c}$
 (E) $\frac{pc}{x}$

- 14** For all values of w and y , let $w \blacktriangleright y = \frac{wy}{w+y}$. If $6 \blacktriangleright z = 4$, what is the value of $z \blacktriangleright 6$?
- (A) 2.4
(B) 2.8
(C) 3.2
(D) 3.6
(E) 4.0

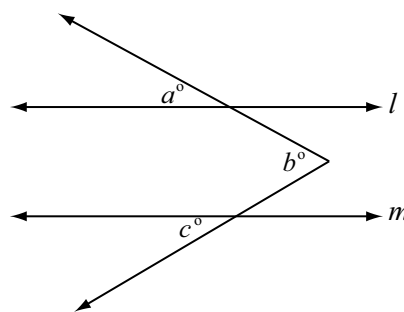
- 15** The product of seven consecutive even integers is 0. What is the least possible value of any one of these integers?
- (A) -14
(B) -12
(C) -10
(D) -8
(E) -6

- 16** The senior class at Weston High School has 40 fewer boys than girls. If the class has n boys, then what percent of the senior class are boys?
- (A) $\frac{n}{2n+40}\%$
(B) $\frac{n}{2n-40}\%$
(C) $\frac{100n}{2n+40}\%$
(D) $\frac{100n}{2n-40}\%$
(E) $\frac{100n}{n+40}\%$

- 17** If x and y are positive integers and $(xy+x)$ is even, which of the following must be true?
- (A) If x is odd, then y is odd.
(B) If x is odd, then y is even.
(C) If x is even, then y is odd.
(D) If x is even, then y is even.
(E) x cannot be odd

- 18** If $2^k \cdot 8^w = 2^{20}$, what is the value of $k + 3w$?
- (A) 8
(B) 12
(C) 16
(D) 20
(E) 24

- 19** The fashion consultant at King's Department Store is given five dressed mannequins to arrange side by side in the display window. If the tallest of these mannequins is not allowed to be placed on either end of the display, how many different arrangements of the mannequins are possible?
- (A) 18
(B) 36
(C) 72
(D) 96
(E) 120

20

In the figure above, line l is parallel to line m . Which of the following is equal to c in terms of a and b ?

- (A) $b - a - 180$
(B) $180 + b - a$
(C) $180 - b - a$
(D) $90 + b - a$
(E) $b - a$

STOP

You may check your work, on this section only, until time is called.

Section 3

Time—25 minutes

24 Questions (25–48)

3

Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five words or sets of words labeled A through E. Choose the word or set of words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

Example:

Medieval kingdoms did not become constitutional republics overnight; on the contrary, the change was -----.

- (A) unpopular
- (B) unexpected
- (C) advantageous
- (D) sufficient
- (E) gradual

Correct response: (E)

25

With the rapid advancement of technology, many medical procedures once considered ----- and incredibly efficient are now looked at as outdated and -----.

- (A) masterful . . novel
- (B) ingenious . . practical
- (C) pointless . . dysfunctional
- (D) innovative . . inefficacious
- (E) nonsensical . . inadequate

26

The concept that an atom is composed of minuscule charged particles was once ----- theory, but is now accepted as an undeniable truth.

- (A) an incontrovertible
- (B) a generous
- (C) a contentious
- (D) a hospitable
- (E) an egotistical

27

If the rapid ----- of Africa's remaining rain forests persists, the rare and ----- creatures that make the region their home will soon become extinct.

- (A) annihilation . . engendered
- (B) overgrowth . . obstinate
- (C) amelioration . . vulnerable
- (D) destruction . . endangered
- (E) cultivation . . unyielding

28

Stenocereus thurberi, the organ pipe cactus, is famous for its ability to thrive in the Sonoran Desert in spite of the ----- climate, where water is so scarce.

- (A) arid
- (B) fervent
- (C) lucid
- (D) banal
- (E) sweltering

29

The usually ----- store manager shocked her employees when she exploded into a vicious tirade full of expletives and insults.

- (A) vexed
- (B) intemperate
- (C) belligerent
- (D) vivacious
- (E) tranquil

30

A feeling of -----, a sense of profound depression and obsession with death and gore, permeates the canvases of nineteenth-century painter Antonio Calvelli.

- (A) notoriety
- (B) lethargy
- (C) pomposity
- (D) morbidity
- (E) humility

GO ON TO THE NEXT PAGE ▶▶▶

31 Her coworkers respect her because she is both ----- and -----; she refuses to compromise her principles, and she never lies.

- (A) inexorable . . forthright
- (B) capricious . . candid
- (C) unrelenting . . perfidious
- (D) intransigent . . guileful
- (E) mercurial . . veracious

32 Although the common practice among scientists of the sixteenth century was to ----- the beliefs of the Church as law, Galileo Galilei expressed ----- opinions that contrasted strongly with this dogma and found himself exiled to a life in prison.

- (A) discount . . iconoclastic
- (B) endorse . . orthodox
- (C) espouse . . heretical
- (D) impugn . . dissident
- (E) advocate . . conformist

The following two passages are followed by questions based on their content and the relationship between the passages. Answer each question based on what is stated or implied in the passages.

Questions 33–36 are based on the following passages.

The following passages discuss life during the Gold Rush of the mid-1800s, when thousands of people migrated to California in search of gold.

Passage 1

Line My father went prospecting north of
Haileybury when there was no such mining
field known as Kirkland Lake. I think it was
called Larder Lake. He had someone helping
5 him, and staked some claims, but a bear
climbed a tree and ate their bacon. That left
them short of supplies and they had to come
out and go back again with more supplies. If
you don't sell your claims you have to do thirty
10 days of assessment work per claim the first
year, and the second year sixty days and the
third year ninety days before you can get them
patented. That's rather expensive unless you
have money to begin with. So he didn't sell
15 those claims, and it became, I think, the Kerr-
Addison Mine. It's still producing gold. That's

the way it goes in the mining game. It's like
tossing coins to see who's lucky.

Passage 2

In spite of the hard conditions of life, the lack of
20 all the creature comforts, the business of child
bearing and rearing went on apace. Families
were large and the burden must have been well
nigh crushing, for gold mining was not always
profitable, and women knew what it was to be
25 obligated to help to fill the family larder.
Heaven alone knows how these women toiled
and silently suffered. Their hair is white now,
and their faces deeply graven with lines. They
say that wrinkles tell in cipher the story of a
30 woman's life, and these faces tell a noble story
that they who run may read.

33 Unlike Passage 2, Passage 1 conveys a tone of

- (A) hopefulness
- (B) jollity
- (C) horror
- (D) resignation
- (E) embarrassment

34 Both passages indicate that

- (A) gold mining was restricted to a small geographical region
- (B) women were often called upon to do mining work
- (C) gold miners often broke the law
- (D) mining claims could only be purchased by men
- (E) gold mining was often unsuccessful

35 The first sentence of Passage 2 characterizes the women of the Gold Rush as

- (A) harsh
- (B) steadfast
- (C) creative
- (D) fortunate
- (E) intelligent

First paragraph: "I Hear your Home Town Is All Burned Up" from *Tell Me Another Story*, Edith Macfie. ©1988 The McGraw-Hill Companies

Second paragraph: <http://www.sfmuseum.org/hist5/foremoms.html>

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36

The statement “the burden must have been well nigh crushing” (lines 22–23) means that

- (A) the task of mining for gold was very hard labor
- (B) families often had to make long and difficult treks in search of gold
- (C) raising families was difficult because income was not reliable
- (D) mining supplies were often very expensive
- (E) there were many governmental regulations that restricted the activities of miners

3

The passages below are followed by questions based on their content or the relationship between the passages. Answer the questions on the basis of what is stated or implied in the passages or the introductory material preceding them.

Questions 37–48 are based on the following passages.

The following passages discuss the issue of medical confidentiality, a physician's responsibility to keep a patient's medical information private.

Passage 1

Line There are two primary philosophical arguments in favor of preserving medical confidentiality. The first argument is utilitarian and refers to possible long-term consequences.

- 5 The second argument is non-utilitarian and speaks of respect for the right of persons.

The utilitarian argument for the preservation of medical confidentiality is that without such confidentiality the physician-patient relationship would be seriously impaired. More specifically, the promise of confidentiality encourages the patient to make a full disclosure of his symptoms and their causes, without fearing that an embarrassing condition will become public knowledge.

10 Among medical professionals, psychotherapists have been particularly concerned to protect the confidentiality of their relationship with patients.

20 A second argument for the principle of medical confidentiality is that the right to a sphere of privacy is a basic human right. In

25 what is perhaps the classic essay concerning the right of privacy, Samuel Warren and Louis Brandeis wrote in 1890 that the common law secured “to each individual the right of determining, ordinarily, to what extent his thoughts, sentiments, and emotions shall be communicated to others.” Present-day

30 advocates of the right of privacy frequently employ the imagery of concentric circles or spheres. In the center is the “core self,” which shelters the individual's “ultimate secrets”—

35 “those hopes, fears, and prayers that are beyond sharing with anyone unless the individual comes under such stress that he must pour out these ultimate secrets to secure emotional release.” According to this image, the next largest circle contains intimate secrets

40 which can be shared with close relatives or confessors of various kinds. Successively larger circles are open to intimate friends, to casual acquaintances, and finally to all observers.

The principle of medical confidentiality can be based squarely on this general right of privacy. The patient, in distress, shares with the physician detailed information concerning problems of body or mind. To employ the imagery of concentric circles, the patient

45 admits the physician to an inner circle. If the physician, in turn, were to make public the information imparted by the patient—that is, if he were to invite scores or thousands of other persons into the same inner circle—we would

50 be justified in charging that he had violated the patient's right of privacy and that he had shown disrespect to the patient as a human being.

55 These two arguments for the principle of medical confidentiality—the argument based on probable consequences of violation and the argument based on the right of privacy—constitute a rather strong case for the principle.

Passage 2

65 As professionals who wield enormous power over their patients' lives, physicians are burdened with commensurate responsibilities. Certainly those responsibilities include maintaining a high level of skill in medical procedures and knowledge about new medications and their side-effects. The

70 commitment to such tasks constitutes not only a respect of the craft and science of medicine, but even more importantly a respect of the

Passage 1: *Biomedical Ethics*, Thomas A. Mappes, Jane S. Zembaty, McGraw-Hill ©1981 p 116–117

GO ON TO THE NEXT PAGE ▶▶▶

75 patient. Interwoven in this patient-physician relationship, and critical to its success, is the principle of confidentiality.

80 The word confidentiality derives from the Latin *fidere*, meaning to trust. Confidentiality, then, implies more than keeping secrets; it implies being worthy of trust. It is acting always to inspire the patient that one has his or her best interests in mind. The issue of confidentiality, then, is more subtle and complicated than merely keeping medical information private.

85 The Hippocratic oath is surprisingly unspecific about the issue of confidentiality, and the good physician must judiciously negotiate the sometimes tricky terrain of professionalism and patient confidence. In 90 many rural areas, for instance, physicians are responsible for the health care of entire families. A woman may have incurred a disease or trauma that renders her sterile, and wish to keep this fact from her husband, perhaps in naive hope or to avoid a confrontation. The inability to conceive may induce the husband, at the same time, to express signs of depression and a sense of inadequacy which could be 100 alleviated by knowing the facts. How must a physician act when the confidences of different patients conflict? A responsibility to public health also constrains a physician's responsibility to confidentiality. The need to 105 avoid an epidemic usually outweighs a patient's desire to avoid the stigma associated with a highly communicable disease.

110 Perhaps the thorniest question concerning confidentiality is: what information is truly a matter of confidence? Medical anecdotes are invaluable sources of professional knowledge (and, often, levity). Convention holds that patients in such anecdotes remain anonymous, 115 but the unique features of the malady or circumstance can reveal as much as identifying the patient by name. This is all the more true if the patient is already in the public eye.

120 The Hippocratic pledge to do no harm may raise more questions than it answers. Perhaps the father of medicine intended physicians themselves to be as much philosophers as practitioners.

37

The purpose of the first paragraph of Passage 1 is to

- (A) summarize a controversy
- (B) present an individual's point of view
- (C) indicate the existence of a popular misconception
- (D) provide historical background to an issue
- (E) introduce the reasoning behind a practice

3

38

In Passage 1, the author uses the term "utilitarian" to mean regarding

- (A) the monetary costs of medical care
- (B) the reputation of the medical profession
- (C) the effectiveness of a physician's services
- (D) the moral rights of a patient
- (E) the education of physicians

39

In the second paragraph of Passage 1, psychotherapists are singled out as doctors who

- (A) are exceptions to the rule of confidentiality
- (B) do not use invasive procedures
- (C) require more sophisticated diagnostic tools than do most doctors
- (D) need extensive education before they can practice their specialty
- (E) require the trust of their patients to be successful

40

The center of each of the "concentric circles" (line 31) is

- (A) the patient
- (B) the principle of confidentiality
- (C) the physician
- (D) the patient's closest friends
- (E) any medical condition the patient might have

41

As it is used in line 55, the word "charging" most nearly means

- (A) entrusting
- (B) purchasing
- (C) making an accusation
- (D) attacking violently
- (E) giving an order

- 42** The author of Passage 2 uses the term “interwoven” (line 75) to suggest that physician-patient confidentiality is
- (A) extremely complicated
 - (B) part of a larger set of responsibilities
 - (C) not fully appreciated by patients
 - (D) the focus of a heated controversy
 - (E) often ignored in the medical community
- 43** The author of Passage 2 discusses the origin of the word “confidentiality” in order to
- (A) indicate that a medical controversy has endured for centuries
 - (B) suggest that physicians have been misusing the term for a long time
 - (C) emphasize the importance of proper diction when a physician communicates with a patient
 - (D) reveal a shade of meaning that may sometimes be overlooked
 - (E) imply that physicians did not always have the responsibilities they have today
- 44** As it is used in line 82, “inspire” most nearly means
- (A) energize
 - (B) fill
 - (C) persuade
 - (D) exalt
 - (E) cause
- 45** The “facts” mentioned in line 101 would most likely include information about
- (A) new forms of therapy
 - (B) the medical condition of another person
 - (C) the limits of medical technology
 - (D) potentially dangerous drugs
 - (E) the personal life of the physician
- 46** The purpose of the question in lines 101–103 is to
- (A) open a new line of investigation
 - (B) summarize the issue presented by the preceding example
 - (C) make a definitive statement in a rhetorical way
 - (D) mock a particular class of people
 - (E) indicate the weakness of a particular argument
- 47** The parenthetical remark in line 113 indicates that medical anecdotes are sometimes
- (A) malicious
 - (B) hard to interpret
 - (C) violations of confidentiality
 - (D) humorous
 - (E) anonymous
- 48** Which of the following best summarizes the perspective of each passage on a patient’s right to privacy?
- (A) Passage 1 suggests that it is inviolable, while Passage 2 implies that it can be violated in certain circumstances.
 - (B) Passage 1 suggests that it is anachronistic, while Passage 2 indicates that it is still relevant.
 - (C) Passage 1 suggests that it is an issue that concerns philosophers more than physicians, while Passage 2 suggests that it is an issue that concerns physicians more than philosophers.
 - (D) Passage 1 suggests that it should be resolved on a case-by-case basis, while Passage 2 indicates that it must be codified in a set of standards.
 - (E) Passage 1 suggests that the courts have used it to impose an improper burden on physicians, while Passage 2 makes light of that burden.



STOP

You may check your work, on this section only, until time is called.

Section 4

Time—25 minutes

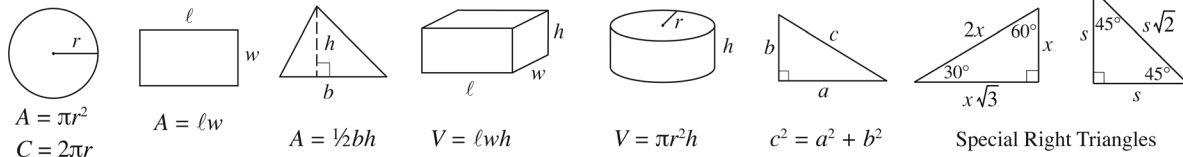
18 Questions (21–38)

Directions for Multiple-Choice Questions

In this section, solve each problem, using any available space on the page for scratchwork. Then decide which is the best of the choices given and fill in the corresponding oval on the answer sheet.

- You may use a calculator on any problem. All numbers used are real numbers.
- Figures are drawn as accurately as possible EXCEPT when it is stated that the figure is not drawn to scale.
- All figures lie in a plane unless otherwise indicated.

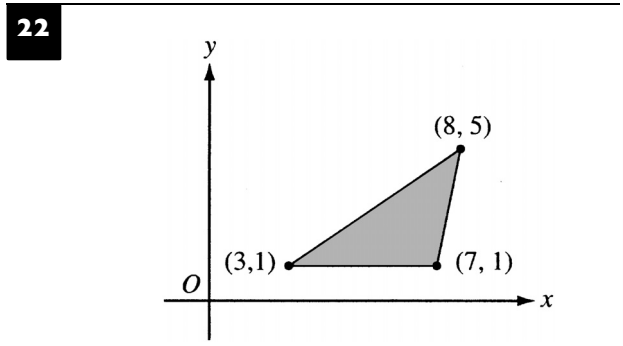
Reference Information



The arc of a circle measures 360° .
 Every straight angle measures 180° .
 The sum of the measures of the angles in a triangle is 180° .



- 21** If $x - 3$ is 4 more than w , then x is how much more than w ?
- (A) 3
 - (B) 4
 - (C) 5
 - (D) 6
 - (E) 7



- What is the area of the triangle in the figure above?
- (A) 6
 - (B) 8
 - (C) 10
 - (D) 12
 - (E) 14

23 If $7b - 8 \geq 4b + 16$ and b is an odd integer, what is the least possible value of b ?

- (A) 8
- (B) 9
- (C) 10
- (D) 11
- (E) 12

26 If a triangle has two sides of length 6 and 10, what is the largest possible integer value of the length of the third side?

- (A) 13
- (B) 14
- (C) 15
- (D) 16
- (E) 17

4

24 If the ratio of the area of circle A to the area of circle B is 2 : 1, then how many times larger is the circumference of circle A than the circumference of circle B ?

- (A) $\sqrt{2}$
- (B) 2
- (C) $\sqrt{3}$
- (D) 4
- (E) 5

27 Two identical cubes, each with a volume of 64 cubic inches, are glued together by setting the face of one of the cubes on top of the face of the other cube to form a rectangular solid. What is the surface area of the newly formed solid?

- (A) 64
- (B) 112
- (C) 128
- (D) 160
- (E) 192

25 If the average of four positive integers is 12, what is the largest possible value of one of those integers?

- (A) 35
- (B) 37
- (C) 40
- (D) 42
- (E) 45

28 In the preliminary round of the Little League World Series, each of the six teams in a bracket plays every other team in the bracket exactly twice. How many games are played altogether in the preliminary round in one bracket?

- (A) 12
- (B) 15
- (C) 21
- (D) 30
- (E) 46

Directions for Student-Produced Response Questions

Each of the questions in this section requires you to solve the problem and enter your answer in a grid, as shown below.

- If your answer is $2/3$ or $.666\dots$, you must enter the most accurate value the grid can accommodate, but you may do this in one of four ways:

<p>Start in first column</p>	<p>Start in second column</p>	<p>Grid as a truncated decimal</p>	<p>Grid as a rounded decimal</p>																																																																																																																																																																																																
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- In the example above, gridding a response of 0.67 or 0.66 is incorrect because it is less accurate than those above.
- The scoring machine cannot read what is written in the top row of boxes. You MUST fill in the numerical grid accurately to get credit for answering any question correctly. You should write your answer in the top row of boxes only to aid your gridding.
- Do not grid in a mixed fraction like $3\frac{1}{2}$ as

3	1	/	2
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 because it will be interpreted as $\frac{31}{2}$. Instead, convert it to an improper fraction like $7/2$ or a decimal like 3.5 before gridding.
- None of the answers will be negative, because there is no negative sign in the grid.
- Some of the questions may have more than one correct answer. You must grid only one of the correct answers.
- You may use a calculator on any of these problems.
- All numbers in these problems are real numbers.
- Figures are drawn as accurately as possible EXCEPT when it is stated that the figure is not drawn to scale.
- All figures lie in a plane unless otherwise indicated.

29 The gas tank in car A holds 30% less gasoline than the gas tank in car B does. If car A can hold 21 gallons, how many gallons does the tank in car B hold?

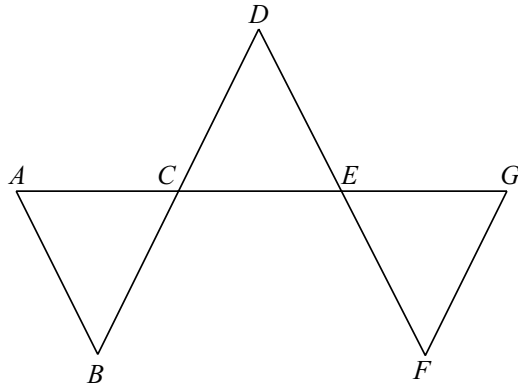
31

$$\begin{array}{r} 6A \\ +CB \\ \hline 1B7 \end{array}$$

30 Eric bakes a cake for his daughter's birthday party. He cuts the cake into 4 equal-sized pieces and then cuts each of the 4 pieces into 3 more equal-sized pieces. Hidden in one of the pieces is a golden coin. If he gives his daughter one of the slices chosen at random, what is the probability that she will get the piece containing the coin?

In the correctly worked addition problem above, each of the three letters A, B, and C represents a different digit and $B + C = 14$. What is the value of A?

32



Note: Figure not drawn to scale.

The combined perimeter of the three identical isosceles triangles in the figure above is 45. If $FE = 2EG$ and $\angle ABC = \angle DEC = \angle EGF$, then what is the value of AG ?

33

If $bc = 4$, $cf = 6$, $fh = 12$, and $bh = 8$, what is the value of $b^2c^2f^2h^2$?

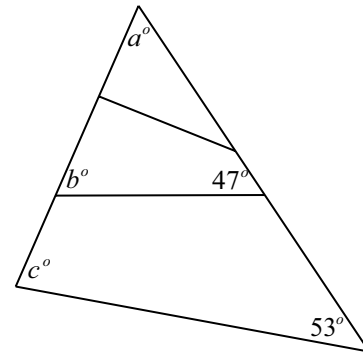
34

$X: \{2, 4, 6, 8, 10\}$

$Y: \{1, 3, 5, 7, 9\}$

One number is to be chosen at random from set X and added to a number chosen at random from set Y . What is the probability that the sum will be an odd number?

35



Note: Figure not drawn to scale.

In the figure above, what is the value of $b - c$?

36

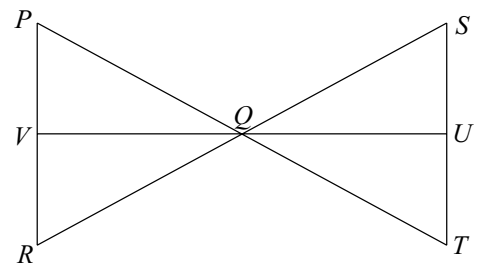
Eight students in a physics class of twenty students took the final exam and scored an average of 87. What is the average score for the remaining twelve students in the class if the average for the entire class was an 84?

37

$-4, 2, 4, -4, 2, 4, -4, 2, 4, \dots$

The sequence above continues according to the pattern shown. What is the sum of the first 20 terms of this sequence?

38



Note: Figure not drawn to scale.

In the figure above, line segment VU is perpendicular to line segments PR and ST . If $\angle VQP = \angle TQU = 60^\circ$ and $VQ = VR = SU = UQ = 2$, what is the area of the entire figure?

STOP

You may check your work, on this section only, until time is called.

Section 5

Time—30 minutes

39 Questions (1–39)

Directions for “Improving Sentences” Questions

Each of the sentences below contains one underlined portion. The portion may contain one or more errors in grammar, usage, construction, precision, diction (choice of words), or idiom. Some of the sentences are correct.

Consider the meaning of the original sentence, and choose the answer that best expresses that meaning. If the original sentence is best, choose (A), because it repeats the original phrasing. Choose the phrasing that creates the clearest, most precise, and most effective sentence.

The children couldn't hardly believe their eyes.

- (A) couldn't hardly believe their eyes
- (B) would not hardly believe their eyes
- (C) could hardly believe their eyes
- (D) couldn't nearly believe their eyes
- (E) could hardly believe his or her eyes

(A) (B) (C) (D) (E)

1 With so much evidence to the contrary, it is difficult to understand why so many people still contend that, for tooth care, whitening creams are as good, if not better, than regular brushing and routine checkups.

- (A) as good, if not better, than
- (B) as good as, if not better than,
- (C) better than, not just as good as
- (D) as good, if not the best compared to
- (E) the best as compared against

2 Despite having sometimes dangerous side effects, many people still prefer medication to exercise when attempting to lose weight.

- (A) many people still prefer medication to exercise when attempting to lose weight
- (B) medication, rather than exercise, is still the preferred method of weight loss for many people
- (C) medication instead of exercise for weight loss is the method that is preferred
- (D) many people consider medication a better alternative to exercise when attempting to lose weight
- (E) medication, rather than exercise, being the most preferred method of weight loss by many people

3 The auditors sifted meticulous through the old tax returns in an effort to find any unpaid taxes.

- (A) meticulous through the old tax returns
- (B) through the old tax returns with meticulousness
- (C) meticulously through the old tax returns
- (D) through the old tax returns in meticulously fashion
- (E) the old tax returns in meticulous fashion

4 The news that the house was no longer for sale came as a disappointment to him, in that he had been excited to have the opportunity to buy the house for his wife as a wedding present.

- (A) as a disappointment to him, in that he had been excited to have the opportunity
- (B) as a disappointment to him; he having had the opportunity
- (C) to him as a disappointment; having been excited as to have had the opportunity
- (D) disappointed him; he had been excited
- (E) to him as a disappointment, in that he was excited for the opportunity

5 Except for you and me, everyone bought a ticket to the concert.

- (A) Except for you and me, everyone bought
- (B) Except for you and I, everyone bought
- (C) With the exception of you and I, everyone bought
- (D) Except for you and me, everyone have bought
- (E) Everyone except you and I bought

6

Being the first person in his family to attend college, that feeling of accomplishment has driven Gerard to strive for greatness in all aspects of his life.

- (A) that feeling of accomplishment has driven Gerard to strive for greatness in all aspects of his life.
- (B) Gerard is driven to strive for greatness in all aspects of his life by that feeling of accomplishment.
- (C) Gerard strives for greatness in all aspects of his life by that driven feeling of accomplishment.
- (D) Gerard has been driven to strive for greatness in all aspects of his life by that feeling of accomplishment.
- (E) Gerard's feeling of accomplishment drives him to strive for greatness in all aspects of his life.

7

Before the school bus returned from the basketball game, the snow began to fall, making the trip home from the game slow and unpleasant.

- (A) the snow began to fall
- (B) was when the snow began falling
- (C) the snow begins to fall
- (D) when the snow began falling
- (E) snow is falling

8

Doctor Strathmore is one of the professors who is planning to speak at graduation.

- (A) one of the professors who is planning
- (B) one of the professors that is planning
- (C) one of the professors who are planning
- (D) the professor that is one planning
- (E) one professor of the ones that plan

9

The two candidates differ in their congressional experience, the older candidate has served for three times as many years as his younger opponent.

- (A) experience, the older candidate has
- (B) experience, and the older candidate having
- (C) experience; the older candidate has
- (D) experience; but the older candidate has
- (E) experience, because the older candidate having

10

If you could have been present for your son's musical performance, you would have witnessed firsthand the incredible progress he has made in the last year.

- (A) If you could have been present for your son's musical performance
- (B) If you were to have been present for your son's musical performance
- (C) You could have been present for your son's musical performance and
- (D) If you would have been present for your son's musical performance,
- (E) Had you been present at your son's musical performance,

11

High school students today, unlike just 10 years ago, face greater pressures in the college application process.

- (A) High school students today, unlike just 10 years ago,
- (B) Compared to their counterparts of just 10 years ago, high school students today
- (C) Unlike high school students 10 years ago; those today
- (D) Today's high school student, different from those of 10 years ago,
- (E) Different from a student of 10 years ago, today's high school student

12

When one visits a car dealership to shop for a vehicle, you have to be careful not to fall

victim to the ploys of the occasional devious salesperson.

- (A) When one visits a car dealership to shop for a vehicle, you have to be careful
- (B) When you visit a car dealership to shop for a vehicle, one must be careful
- (C) If you visit a car dealership to shop for a vehicle, you must have been careful
- (D) When one is visiting a car dealership to shop for a vehicle, you must be careful
- (E) When you visit a car dealership to shop for a vehicle, you have to be careful

13

After skillfully managing the department for 18 months, the promotion to vice president of the company was offered to Lisa.

- (A) the promotion to vice president of the company was offered to Lisa
- (B) the promotion to vice president of the company had been offered to Lisa
- (C) Lisa was offered the promotion to vice president of the company
- (D) Lisa will have been offered the promotion to vice president of the company
- (E) the offer to Lisa had been made for her to be the vice president of the company

14

It is important on the morning of the exam to make sure that you can eat a good breakfast, dress comfortably, getting to the school well before the test is scheduled to begin.

- (A) dress comfortably, getting
- (B) dress comfortably, and get
- (C) dress comfortably, and will get
- (D) dressing comfortably, and get
- (E) dressing comfortably and getting

15

Despite having an impressively polished routine, the comedian was unable to illicit laughter from the unreceptive audience.

- (A) the comedian was unable to illicit laughter from the unreceptive audience
- (B) the comedian was unable to illicit laughter from the audience that was not receptive
- (C) the comedian was unable to elicit laughter from the unreceptive audience
- (D) the unreceptive audience had made it impossible for him to elicit laughter
- (E) the comedian was not able to elicit from the unreceptive audience laughter

16

The tobacco company spent millions of dollars on research, the results that they then kept from the public because it had discovered that cigarettes could cause cancer.

- (A) The tobacco company spent millions of dollars on research, the results that they then kept from the public because it had discovered
- (B) Despite having spent millions of dollars on research, the tobacco company then kept their results from the public having discovered
- (C) The tobacco company spent millions of dollars on research, the results of which it then kept from the public because it discovered
- (D) Having spent millions of dollars on research, the tobacco company then kept its results from the public and it discovered
- (E) Because they spent millions of dollars on research, the tobacco company kept its results from the public which discovered

17

Upon reviewing the videotape footage of the convenience store robbery, the verdict was clear; the members of the jury quickly agreed that the defendant was guilty.

- (A) Upon reviewing
- (B) Having been reviewing
- (C) When they reviewed
- (D) When reviewing
- (E) Reviewing

18

By the time Christmas vacation arrives, I have finished all of my exams and my last term paper.

- (A) I have finished all of my exams and my last term paper
- (B) all of my exams and my last term paper have finished
- (C) I will have been finishing all of my exams and my last term paper
- (D) all of my exams and my last term paper have been finished
- (E) I will have finished all of my exams and my last term paper

5

19 According to an outdated survey conducted in 2002 by a San Francisco-based consulting firm, Pittsburgh ranked among the cleanest cities in the world.

- (A) Pittsburgh ranked among the cleanest cities in the world
 (B) Pittsburgh ranks among the cleanest cities in the world
 (C) Pittsburgh has been ranked among the cleanest cities in the world
 (D) among the cleanest cities in the world is ranked Pittsburgh
 (E) ranked among the cleanest cities in the world had been Pittsburgh

20 Portrayed as a power-hungry conqueror, Napoleon Bonaparte, a great military commander of the eighteenth and nineteenth centuries, argues he was instead building a united federation of free people in Europe.

- (A) argues he was instead building a united federation of free people in Europe
 (B) instead argued that he was building Europe into a united federation of free people
 (C) argued he was instead building a united federation of free people in Europe
 (D) will argue that he was building a united federation of free people's in Europe
 (E) argued he was building, for Europe, a united federation of free people

5

Directions for "Identifying Sentence Error" Questions

The following sentences may contain errors in grammar, usage, diction (choice of words), or idiom. Some of the sentences are correct. No sentence contains more than one error.

If the sentence contains an error, it is underlined and lettered. The parts that are not underlined are correct.

If there is an error, select the part that must be changed to correct the sentence.

If there is no error, choose (E).

EXAMPLE:

By the time they reached the halfway point
in the race, most ^Aof the runners hadn't hardly
_B _C _D
 begun to hit their stride. No error
_E

(A) (B) (C) (D) (E)

21 Frank Lloyd Wright, who was one of
_A
 America's most influential architects, is
_B
 remembered for his innovative designs
_C
 and boundless energy. No error
_D _E

22 The teacher warned the students that,
_A
if any of them intended to hand in their
_B _C
 assignment after the due date, he or she
should be prepared to receive a substan-
_D
 tially lower grade. No error
_E

23 Although Raul Vazquez is working
_A _B
at the company for only 16 months, he was
_C _D
 promoted to Head of Operations last week.
No error
_E

24 The twig caterpillar is a bug that escapes
_A
detection by birds because of their striking
_B _C
 ability to blend in with the surroundings.
_D
No error
_E

GO ON TO THE NEXT PAGE ►►►

- 25** Sitting on the porch overlooking the lawn below, I could hear Erica and Lydia laughing as she ran full-speed through the spray of the sprinkler. No error
- 26** During the Cold War, the Soviet Union and the United States seemed to be engaged in a constant battle to see who was the strongest nation. No error
- 27** In my locker was a few textbooks and a bag of sporting equipment that my friend had forgotten to take home with him. No error
- 28** The senior members of the law firm were getting tired of him constantly leaving the office early on Fridays to begin his weekend. No error
- 29** If not in peak physical condition, running a marathon can have devastating effects on one's leg muscles. No error
- 30** A student protest on the social and political control still held by the communist party, the Tiananmen Square demonstration of 1989 resulted in the deaths of over 2,000 civilians. No error
- 31** Of the two sophomores on the debate team, Gilbert was the one less nervous about speaking in public and was the one selected to represent the team in the state finals. No error
- 32** In an effort to pull the country out of a recession, the President cut taxes, increasing spending, and lowered interest rates. No error
- 33** Though many archaeologists have concluded that the ancient Egyptians were morbidly preoccupied in death, others argue that the Egyptians were instead attempting to perpetuate a good existence in the after-life for the individual that was buried. No error
- 34** Lavender, like other herbs that can be dried, are useful as a salve and lotion. No error

Directions for "Improving Paragraphs" Questions

Below is an early draft of an essay. It requires revision in many areas.

The questions that follow ask you to make improvements in sentence structure, diction, organization, and development. Answering the questions may require you to understand the context of the passage as well as the rules of standard written English.

Questions 35–39 refer to the following passage.

5

(1) *The nonspecific immune system is the nonspecific prevention of the entrance of invaders into the body.* (2) *Saliva contains an enzyme called lysozyme that can kill germs before they have a chance to take hold.* (3) *Lysozyme is also present in our tears, providing a nonspecific defense mechanism for our eyes.*

(4) *A nonspecific cellular defense mechanism is headed up by cells called phagocytes.* (5) *These cells, macrophages and neutrophils, roam the body in search of bacteria and dead cells to engulf and clear away.* (6) *Some assistance is offered to their cause by a protein molecule called complement.* (7) *This protein has the task of making sure that molecules, which need to be cleared will have some sort of identification for the displaying of the need for phagocyte assistance.* (8) *An antigen is a molecule that is foreign to our bodies and causes our immune system to respond.* (9) *Complement coats these cells, stimulating phagocytes to ingest them.* (10) *Cells involved in mechanisms that need cleanup assistance, such as platelets, have the ability to secrete chemicals that attract macrophages and neutrophils to places such as infection sites to help the elimination of foreign bacteria.*

(11) *A prime example of a nonspecific cellular response is inflammation.* (12) *Imagine that you pick up a tiny splinter in your finger as you grab a piece of wood.* (13) *Cells in the figure tissue, called mast cells, containing the signal histamine that is initiating the inflammation response.* (14) *Entrance of the splinter damages these mast cells, causing them to release histamine, which migrates through the tissue toward the bloodstream.* (15) *Histamine causes increased permeability and bloodflow to the injured tissue.* (16) *The splinter also causes the release of signals that call in the nonspecific phagocytic cells, which come to the site of the injury to clear away any debris or pathogens within the tissue.* (17) *The redness and warmth associated with inflammation occur because bloodflow increases to the area as a result of this process.*

35

Where is the best place to insert the following sentence?

The skin covering the entire body is a nonspecific defense mechanism; it acts as a physical barrier to infection.

- (A) after sentence 2
- (B) after sentence 3
- (C) after sentence 4
- (D) after sentence 5
- (E) after sentence 7

36

Which of the following sentences contributes least to the unity of the second paragraph?

- (A) sentence 6
- (B) sentence 7
- (C) sentence 8
- (D) sentence 9
- (E) sentence 10

37 Which of the following is the best way to combine sentences 6 and 7 (reproduced below)?

Some assistance is offered to their cause by a protein molecule called complement. This protein has the task of making sure that molecules, which need to be cleared will have some sort of identification for the displaying of the need for phagocyte assistance.

- (A) Making sure that molecules which need to be cleared will have some sort of identification for the displaying of the need for phagocyte assistance, complement works to this end.
- (B) Complement, a protein molecule, offers assistance to their cause by making sure that molecules, which need to be cleared will have some sort of identification for the displaying of the need for phagocyte assistance.
- (C) Some assistance is offered to their cause by a protein molecule called complement; a protein that has the task of making sure that molecules to be cleared have some sort of identification for the displaying of this need.
- (D) A protein molecule called complement helps these cells in this task by identifying those molecules that must be cleared.
- (E) Complement offers assistance, as a protein molecule, by making sure that molecules, which need to be cleared, have some sort of identification that displays this need for clearance by phagocytes.

38 Which of the following is the best revision of sentence 13 (reproduced below)?

Cells in the figure tissue, called mast cells, containing the signal histamine that is initiating the inflammation response.

- (A) Cells in the figure tissue, called mast cells, containing the signal histamine that is initiating the inflammation response.
- (B) Cells in your finger tissue known as mast cells contain the signal histamine that will initiate the inflammation response.
- (C) The inflammation response in the finger tissue is initiated when it is made to do so in the cell by histamine.
- (D) Histamine, a signal in the cells of the finger tissue, will be initiating the inflammation response.
- (E) Cells in your finger tissue are containing the signal histamine that will initiate the inflammation response.

5

39 Which of the following is the best sentence to insert after sentence 17?

- (A) This immune process is nonspecific because the cells are not searching for a particular target; they are just looking for anything foreign to clear away.
- (B) The immune system also contains defense mechanisms, which are quite specific.
- (C) The mucous lining of our trachea and lungs prevent bacteria from entering cells and actually assists in the expulsion of bacteria by ushering the bacteria up and out with a cough.
- (D) A vaccine is given to a patient in an effort to prime the immune system for a fight against a specific invader.
- (E) Splinters can also cause a lot of pain, and the inflammation process can contribute to this pain.



You may check your work, on this section only, until time is called.

ANSWER KEY

Section 2 Math	Section 4 Math	Section 1 Critical Reading	Section 3 Critical Reading	Section 5 Writing
<input type="checkbox"/> 1. B	<input type="checkbox"/> 21. E	<input type="checkbox"/> 1. B	<input type="checkbox"/> 25. D	<input type="checkbox"/> 1. B
<input type="checkbox"/> 2. C	<input type="checkbox"/> 22. B	<input type="checkbox"/> 2. A	<input type="checkbox"/> 26. C	<input type="checkbox"/> 2. B
<input type="checkbox"/> 3. D	<input type="checkbox"/> 23. B	<input type="checkbox"/> 3. C	<input type="checkbox"/> 27. D	<input type="checkbox"/> 3. C
<input type="checkbox"/> 4. D	<input type="checkbox"/> 24. A	<input type="checkbox"/> 4. E	<input type="checkbox"/> 28. A	<input type="checkbox"/> 4. D
<input type="checkbox"/> 5. C	<input type="checkbox"/> 25. E	<input type="checkbox"/> 5. D	<input type="checkbox"/> 29. E	<input type="checkbox"/> 5. A
<input type="checkbox"/> 6. D	<input type="checkbox"/> 26. C	<input type="checkbox"/> 6. B	<input type="checkbox"/> 30. D	<input type="checkbox"/> 6. B
<input type="checkbox"/> 7. E	<input type="checkbox"/> 27. D	<input type="checkbox"/> 7. D	<input type="checkbox"/> 31. A	<input type="checkbox"/> 7. A
<input type="checkbox"/> 8. E	<input type="checkbox"/> 28. D	<input type="checkbox"/> 8. D	<input type="checkbox"/> 32. C	<input type="checkbox"/> 8. C
<input type="checkbox"/> 9. C	# Right (A):	<input type="checkbox"/> 9. B	<input type="checkbox"/> 33. D	<input type="checkbox"/> 9. C
<input type="checkbox"/> 10. B	_____	<input type="checkbox"/> 10. C	<input type="checkbox"/> 34. E	<input type="checkbox"/> 10. E
<input type="checkbox"/> 11. B	# Wrong (B):	<input type="checkbox"/> 11. E	<input type="checkbox"/> 35. B	<input type="checkbox"/> 11. B
<input type="checkbox"/> 12. B	_____	<input type="checkbox"/> 12. A	<input type="checkbox"/> 36. C	<input type="checkbox"/> 12. E
<input type="checkbox"/> 13. A	# (A) - $\frac{1}{4}$ (B):	<input type="checkbox"/> 13. B	<input type="checkbox"/> 37. E	<input type="checkbox"/> 13. C
<input type="checkbox"/> 14. E	_____	<input type="checkbox"/> 14. B	<input type="checkbox"/> 38. C	<input type="checkbox"/> 14. B
<input type="checkbox"/> 15. B	<input type="checkbox"/> 29. 30	<input type="checkbox"/> 15. D	<input type="checkbox"/> 39. E	<input type="checkbox"/> 15. C
<input type="checkbox"/> 16. C	<input type="checkbox"/> 30. 1/12 or	<input type="checkbox"/> 16. A	<input type="checkbox"/> 40. A	<input type="checkbox"/> 16. C
<input type="checkbox"/> 17. A	0.08	<input type="checkbox"/> 17. B	<input type="checkbox"/> 41. C	<input type="checkbox"/> 17. C
<input type="checkbox"/> 18. D	<input type="checkbox"/> 31. 2	<input type="checkbox"/> 18. E	<input type="checkbox"/> 42. B	<input type="checkbox"/> 18. E
<input type="checkbox"/> 19. C	<input type="checkbox"/> 32. 9	<input type="checkbox"/> 19. E	<input type="checkbox"/> 43. D	<input type="checkbox"/> 19. A
<input type="checkbox"/> 20. E	<input type="checkbox"/> 33. 2304	<input type="checkbox"/> 20. A	<input type="checkbox"/> 44. C	<input type="checkbox"/> 20. B
	<input type="checkbox"/> 34. 1	<input type="checkbox"/> 21. C	<input type="checkbox"/> 45. B	<input type="checkbox"/> 21. E
	<input type="checkbox"/> 35. 6	<input type="checkbox"/> 22. D	<input type="checkbox"/> 46. B	<input type="checkbox"/> 22. C
	<input type="checkbox"/> 36. 82	<input type="checkbox"/> 23. C	<input type="checkbox"/> 47. D	<input type="checkbox"/> 23. B
	<input type="checkbox"/> 37. 10	<input type="checkbox"/> 24. D	<input type="checkbox"/> 48. A	<input type="checkbox"/> 24. C
	<input type="checkbox"/> 38. 11			<input type="checkbox"/> 25. C
				<input type="checkbox"/> 26. D
				<input type="checkbox"/> 27. B
				<input type="checkbox"/> 28. B
				<input type="checkbox"/> 29. A
				<input type="checkbox"/> 30. A
				<input type="checkbox"/> 31. E
				<input type="checkbox"/> 32. D
				<input type="checkbox"/> 33. B
				<input type="checkbox"/> 34. C
				<input type="checkbox"/> 35. B
				<input type="checkbox"/> 36. C
				<input type="checkbox"/> 37. D
				<input type="checkbox"/> 38. B
				<input type="checkbox"/> 39. A
# Right (A):	# Right (A):	# Right (A):	# Right (A):	# Right (A):
_____	_____	_____	_____	_____
# Wrong (B):	# Wrong (B):	# Wrong (B):	# Wrong (B):	# Wrong (B):
_____	_____	_____	_____	_____
# (A) - $\frac{1}{4}$ (B):	# (A) - $\frac{1}{4}$ (B):	# (A) - $\frac{1}{4}$ (B):	# (A) - $\frac{1}{4}$ (B):	# (A) - $\frac{1}{4}$ (B):
_____	_____	_____	_____	_____

Score Conversion Table

How to score your test

Use the answer key on the previous page to determine your raw score on each section. Your raw score on any section is equal to the number of correct answers on that section minus $\frac{1}{4}$ of the number of wrong answers, with the exception of the mathematical “grid-in” section, on which wrong answers are not deducted from your score. Remember to add the raw scores from Sections 1 and 3 to get your Critical Reading raw score, and to add the raw scores from sections 2 and 4 to get your Math raw score. Write the three raw scores here:

Raw Critical Reading score: _____

Raw Math score: _____

Raw Writing score: _____

Use the table below to convert these to scaled scores.

Scaled scores: Critical Reading: _____ Math: _____ Writing: _____

Raw Score	Critical Reading Scaled Score	Math Scaled Score	Writing Scaled Score	Raw Score	Critical Reading Scaled Score	Math Scaled Score	Writing Scaled Score
48	80			15	44	46	48
47	80			14	43	45	46
46	78			13	41	44	45
45	76			12	40	43	44
44	74			11	39	42	43
43	72			10	38	41	41
42	71			9	37	40	40
41	69			8	36	39	39
40	68			7	34	38	37
39	67		80	6	33	36	36
38	66	80	80	5	32	35	35
37	64	77	78	4	30	34	33
36	63	74	77	3	29	32	32
35	62	72	76	2	27	30	31
34	62	71	74	1	25	29	30
33	61	70	73	0	22	26	29
32	60	68	71	-1	20	24	28
31	59	66	69	-2	20	21	27
30	58	64	68	-3	20	20	25
29	57	62	66	-4	20	20	24
28	56	61	65	-5	20	20	21
27	56	60	63	or below	20	20	20
26	54	59	62				
25	54	58	60				
24	53	57	59				
23	52	55	57				
22	51	54	56				
21	50	53	55				
20	49	52	54				
19	48	51	52				
18	47	50	51				
17	46	49	50				
16	45	47	49				

Detailed Answer Key

Section I

1. **B** The virus remains inactive (*dormant*) in the host without the host being aware of it (*unbeknownst*). *lukewarm* = lacking enthusiasm, tepid; *dormant* = inactive; *solitary* = alone

2. **A** The businessman *embezzled* (stole) large sums of money from his partner, and he *secretly* wired it to a bank account in the Caymen Islands. This shows that he is a *deceitful* individual who *steals* from his partner. *deceitful* = given to cheating; *swindle* = to steal; *duplicitous* = marked by deceptiveness; *rebuke* = to reprimand sharply; *dupe* = to trick

3. **C** The fact that he *wrote his first program at the age of seven* suggests that he is very talented. The missing word should describe his *great skill* with computers. *atrophy* = a wasting away, deterioration; *aptitude* = talent, skill; *skepticism* = doubt; *antagonism* = contentiousness, a feeling of dislike

4. **E** Since she had been with her boyfriend for three years before the breakup, it is *natural* for her to feel *unhappy* afterward. It can be inferred that she was upset and thus her demeanor was overly *melancholy* (marked by depression). *mystified* = puzzled; *sanguine* = cheerfully optimistic; *elated* = very happy; *meticulous* = attentive to detail; *jubilant* = very happy; *disheartened* = dispirited; *irate* = extremely angry; *jocular* = characterized by joking; *despondent* = lacking hope; *melancholy* = marked by depression or sadness

5. **D** Stravinsky's *followers* are those who support his work. The sentence implies a contrast between his followers and *many others* who consider his music *unpleasantly harsh dissonance* and *irregular rhythms*. *sublime* = majestic; *mortify* = embarrass; *dissonance* = discord; a disagreeable combination of sounds; *abstract* = not concrete; difficult to understand; *benevolent* = kind; *aesthetic* = pertaining to beauty; *cacophony* = a combination of harsh sounds; *punctiliousness* = attention to detail

6. **B** The passage indicates that *volcanic geothermal systems ... breach the surface as soothing hot springs* (lines 15–17), which indicates that these water sources originated beneath the surface.

7. **D** Volcanic activity affects the abundance of each of the answer choices except (D), insects. *The*

very air we breathe [gases, choice (A)] can be found in line 12. In line 7–10, *The oceans ... and lakes, rivers, and groundwaters ... are all condensed volcanic steam* [moisture, choice (B)]. Answer choice (C), glaciers, can be found in line 20: *creating glaciers*. Answer choice (E), arable soil, can be found in line 13: *wondrously fertile volcanic soils...*

8. **D** This short passage functions to introduce some concepts and to define some terms. It is not a *brief history of a phenomenon*, because there is no real phenomenon being discussed. It is not a *humorous vignette*, because there are no jokes being told. It is not a *justification of a position*, because it is not taking a side so much as objectively introducing a *set of definitions* to the reader. It is not a *refutation of a common misconception*, because there is no misconception introduced in the passage.

9. **B** A *premise* (line 14) is a statement that *supports a conclusion*. The argument in lines 4–7 consists of three statements: Bob has a temperature, Bob is sick, and Bob should rest. A premise should *[provide] a sufficient reason to believe the others* (lines 12–13). The statement *Bob should rest* is a conclusion. Bob could need to rest for numerous reasons. Just saying that he should rest does not support the conclusion that he has a temperature or that he is sick. The other two statements, *Bob is sick* and *Bob has a temperature*, support the conclusion and provide evidence as to why *Bob should rest*. This makes them premises.

10. **C** The ambivalence of the narrator toward the scrap of paper is clearly demonstrated by the conflict between his attachment to it and his desire to get rid of it. He mentions *the care with which I preserve* (lines 1–2) the paper because of its value in *[keeping] alive the memory of a certain day* (lines 3–4) on the one hand and his decision to *throw it away* (line 23) on the other hand.

11. **E** The narrator says *I protest the accusation of sentimentality*, indicating that he does not think his reputation is warranted. He would not protest it if he carried it willingly or considered it a positive trait or a useful quality.

12. **A** The description the narrator gives is starkly objective. He simply describes the scrap without any reference to emotion. He describes it to give it

some *documentary value* (line 10) in order to dispute his reputation for sentimentality.

13. **B** The statement *my heart suddenly felt heavy* (lines 50–51) stands in stark contrast to the mood the narrator conveyed in the previous paragraph when he said *I felt very happy* (line 38).

14. **B** The narrator’s question “*Was there any mail?*” is *senseless* (line 65) because he can see that *Mother’s small red hand was resting on the little pile* (lines 66–67) of mail. Therefore, he already knows the answer to the question.

15. **D** The narrator states that *a nameless diffidence had prevented me from comforting her* (lines 81–82). *Diffidence* mean *lack of self-confidence*.

16. **A** The narrator is clearly repressing a belief because he says *I knew I was lying* (lines 98–99).

17. **B** The quotation, which is over 300 years old, *provides the world a euphonious [nice sounding] name for an opposition that has been debated ever since* (lines 4–5). It is being used to indicate that the debate being discussed in this passage is centuries old.

18. **E** The terms *wither* and *blossom* refer to plants, but they are here used to describe what might happen to certain social institutions. They are drawing a comparison between natural and social phenomena.

19. **E** Ortega y Gasset asserts than “*Man has no nature...*” meaning that humans are not born with any innate tendencies. Therefore, his conception of *history* must not include congenital behavioral tendencies.

20. **A** The passage states that social constructionism depended on *the doctrine that the mind is a blank slate* (lines 26–27), which asserts that there is no such thing as human nature.

21. **C** The appeal of the blank slate theory is discussed in the third paragraph (lines 32–47), where the theory is said to hold out *the hope of unlimited social progress* (line 47) and to be *the ultimate safeguard against racism, sexism, and class prejudice* (lines 42–43). The passage does not suggest that the blank slate theory reinforces the appropriateness of the current social order.

22. **D** This sentence acknowledges the major argument against the theory for *innate mechanisms*, namely the effectiveness of learning and culture, so it *qualifies*, or moderates, the thesis of the passage, which is stated in the next sentence, namely that *there must be complex innate mechanisms for learning and culture to be possible in the first place* (lines 57–60).

23. **C** The passage states that our taste for fatty foods is one of the *psychological traits... [that is] better adapted to the evolutionary demands of an ancestral environment than to the actual demands of the current environment* (lines 63–67). In other words, the inclination for such foods helped our ancestors to survive.

24. **D** These *axon guidance molecules* are mentioned as examples of *mechanisms of plasticity that make learning possible*. That is, they are innate factors that contribute to cognition.

Section 2

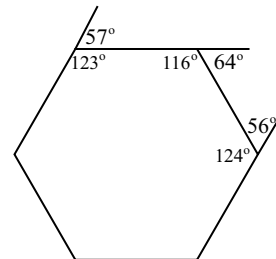
1. **B** $x^2 + 3x + 4 = x^2 + 3x + 4y$

Subtract $(x^2 + 3x)$: $4 = 4y$

Divide by 4: $1 = y$

(Chapter 9 Lesson 1: Solving Equations)

2. **C**



Remember there are 180° in a line. $123 + a = 180$

Subtract 123: $a = 57$

$116 + b = 180$

Subtract 116: $b = 64$

$124 + c = 180$

Subtract 124: $c = 56$

$a + b + c =$

Substitute: $57 + 64 + 56 = 177$

(Chapter 11 Lesson 1: Lines and Angles)

3. **D** $\frac{1}{w} = \frac{3}{16}$

Cross-multiply: $16 = 3w$

Divide by 3: $5.33 = w = \frac{16}{3}$

(Chapter 8 Lesson 4: Ratios and Proportions)

4. **D** First calculate how many signatures are needed: $350 - 125 = 225$.
225 is what percent of 350?

$$225 = \frac{x}{100}(350)$$

Simplify: $225 = 3.5x$
Divide by 3.5: $x = 64\%$

(Chapter 8 Lesson 5: Percents)

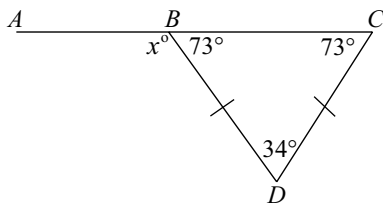
5. **C** Just pick a value for p that fits the rules. Plug it into the answer choices and see which one works.

If $p = 3$,

- (A) $5 - p = 5 - 3 = 2$ not negative
(B) $2p - 6 = 2(3) - 6 = 0$ not negative
(C) $1 - p = 1 - 3 = -2$
(D) $-p + 3 = -3 + 3 = 0$ not negative
(E) $2p + 3 = 2(3) + 3 = 9$ not negative

(Chapter 10 Lesson 3: Numerical Reasoning Problems)

6. **D**



$\angle CDB = 34^\circ$ and triangle BCD is isosceles with $BD = CD$. This means that $\angle CBD = \angle BCD = y$.

$$\begin{array}{rcl} \text{There are } 180^\circ \text{ in a triangle:} & y + y + 34 = 180 & \\ \text{Subtract 34:} & 2y = 146 & \\ \text{Divide by 2:} & y = 73 & \\ \text{There are } 180^\circ \text{ in a line:} & 73 + x = 180 & \\ \text{Subtract 73:} & x = 107 & \end{array}$$

(Chapter 11 Lesson 2: Triangles)

7. **E** $a + b = 6$

Stack the equations and add: $+ a - b = 4$

$$2a = 10$$

Divide by 2: $a = 5$

$$a + b = 6$$

Substitute 5 for a : $5 + b = 6$

Subtract 5: $b = 1$

$$2a + 3b =$$

Substitute a and b : $2(5) + 3(1) = 13$

(Chapter 9 Lesson 1: Solving Equations)

8. **E** Write an equation to find the average:

$$\frac{-4 + 3 + x}{3} = 2$$

Multiply by 3: $-4 + 3 + x = 6$
Combine like terms: $-1 + x = 6$
Add 1: $x = 7$

(Chapter 10 Lesson 2: Mean/Median/Mode Problems)

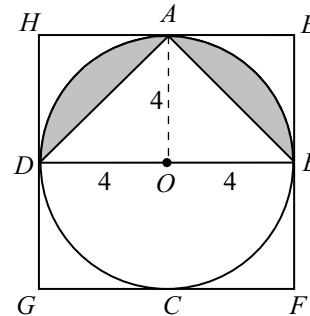
9. **C** The ratio 3:4 is equal to $3 \div 4$, or 0.75.

- (A) $6 \div 12 = 0.50$
(B) $9 \div 16 = 0.5625$
(C) $12 \div 16 = 0.75$
(D) $12 \div 20 = 0.60$
(E) $15 \div 25 = 0.60$

(Chapter 8 Lesson 4: Ratios and Proportions)

10. **B** The cab fare begins at \$2.25. To figure out how many miles she went, first subtract out the starting price from the \$5.00 total: $\$5.00 - \$2.25 = \$2.75$. Divide \$2.75 by \$0.25 per mile: $\$2.75 \div \$0.25 = 11$ miles. So, the cab has gone between 11 and 12 miles.
(Chapter 9 Lesson 1: Solving Equations)

11. **B**



A square with an area of 64 has sides of length $\sqrt{64} = 8$. Since the side of the square is congruent to the diameter of the circle, which is twice the radius, the radius of the circle is 4. To find the area of the shaded region, find the area of half of circle O and subtract out the area of triangle ABD .

$$\begin{array}{rcl} \text{Area of circle } O: & A = \pi r^2 & \\ \text{Substitute 4 for } r: & A = \pi(4)^2 = 16\pi & \\ \text{Divide by 2:} & 8\pi = \text{half the circle} & \\ \text{Find the area of } \triangle ABD: & A = \frac{1}{2}(b)(h) & \\ \text{Substitute:} & A = \frac{1}{2}(8)(4) = 16 & \\ \text{Subtract the areas:} & A_{\text{semicircle}} - A_{\text{triangle}} & \\ \text{Substitute:} & 8\pi - 16 & \end{array}$$

(Chapter 11 Lesson 8: Circles)

12. **B** If $q = p = 3t = 6$, then $q = 6$, $p = 6$, and $t = 2$.

$$3q - 4p + 2t$$

Substitute: $3(6) - 4(6) + 2(2) = -2$

(Chapter 9 Lesson 1: Solving Equations)

13. **A** Set up a ratio to solve this problem.

$$\frac{c \text{ containers}}{p \text{ pounds}} = \frac{? \text{ containers}}{x \text{ pounds}}$$

Cross-multiply: $cx = p$

Divide by p : $\frac{cx}{p} = ?$

(Chapter 8 Lesson 4: Ratios and Proportions)

14. **E** First, solve for z . Let $w \blacktriangleright y = \frac{wy}{w+y}$.

Plug in: $6 \blacktriangleright z = 4 \quad \frac{6z}{z+6} = 4$

Cross-multiply: $6z = 4(z+6)$

Distribute: $6z = 4z + 24$

Subtract $4z$: $2z = 24$

Divide by 2: $z = 12$

Now solve: $z \blacktriangleright 6 = 12 \blacktriangleright 6 = \frac{(12)(6)}{12+6} = \frac{72}{18} = 4$

(Chapter 10 Lesson 1: New Symbol or Term Problems)

15. **B** If the product of a set of integers is zero, then one of the numbers must be zero. To minimize the value of any one of them, let 0 be the *largest* of the integers. Do not miss the fact that they are consecutive *even* integers. They are $-12, -10, -8, -6, -4, -2, 0$.

(Chapter 10 Lesson 3: Numerical Reasoning Problems)

16. **C** Because there are 40 more girls than boys, the number of girls is $n + 40$. If the class has n boys, then the total number of seniors is $n + 40 + n = 2n + 40$. Now find out what percent of $2n + 40$ is n .

n is what percent of $2n + 40$? $n = \frac{x}{100}(2n + 40)$

Divide by $(2n + 40)$: $\frac{n}{2n + 40} = \frac{x}{100}$

Multiply by 100: $\frac{100n}{2n + 40} \% = x$

(Chapter 8 Lesson 5: Percents)

(Chapter 9 Lesson 1: Solving Equations)

17. **A** To solve this logic problem, first try an odd value for x and an odd value for y and see if you can obtain an even result for $xy + x$. Let's say $x = 3$ and $y = 5$. $xy + x = 3(5) + 3 = 18$. So when x is odd, y can also be odd. This eliminates answer choices (B) and (E). Let's say $x = 4$ and $y = 6$. $xy + x = 6(4) + 6 = 30$. So, when x is even, y can also be even. This eliminates answer choice (C). Now, let's say $x = 3$ and $y = 4$. $xy + x = 3(4) + 3 = 15$. This does not work because the solution must be even. So when x is odd, this means y must also be odd—answer choice (A) is thus correct. To prove (D) wrong, try $x = 4$ and $y = 3$. $xy + x = 4(3) + 4 = 16$.

(Chapter 10 Lesson 3: Numerical Reasoning Problems)

18. **D** You can only compare exponents if they have the same base. Change 8^w into a base 2 exponential. Since $8 = 2^3$, you can substitute 2^3 in for 8.

$$2^k \times (2^3)^w = 2^{20}$$

Simplify: $2^k \times 2^{3w} = 2^{20}$

Combine: $2^{k+3w} = 2^{20}$

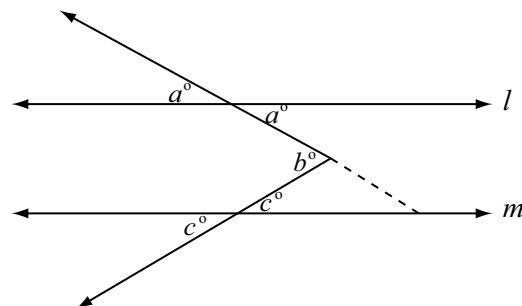
Eliminate bases: $k + 3w = 20$

(Chapter 9 Lesson 3: Working with Exponents)

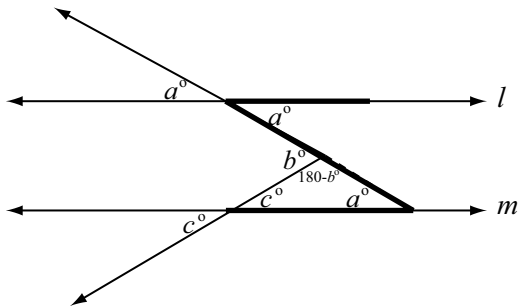
19. **C** The tallest mannequin cannot be placed on either end of the display. This means that there are only 4 choices for the first spot. The final spot is also restricted because the tallest mannequin cannot go there. With one mannequin already placed, this means there are only 3 choices for the final spot. Now you have the middle three positions to fill. There are 3 choices for the second spot, 2 choices for the third spot, and 1 choice for the fourth spot. There are $4 \times 3 \times 2 \times 1 \times 3 = 72$ possible arrangements.

(Chapter 10 Lesson 5: Counting Problems)

20. **E**



With a problem like this, don't be afraid to extend the line to make the diagram easier to use. The dotted line extends the diagram to form a triangle. Vertical angles for a and c have been filled in.



Since lines l and m are parallel, find the “Z” and locate the alternate interior angles that are equal, as shown in the diagram above. The final angle of the triangle can be filled in using linear pair, which says the two angles should be 180° . Use the fact that there are 180° in a triangle.

$$\text{Set up an equation: } a + c + 180 - b = 180$$

$$\text{Subtract } 180^\circ: \quad a + c - b = 0$$

$$\text{Add } b: \quad a + c = b$$

$$\text{Subtract } a: \quad c = b - a$$

(Chapter 11 Lesson 1: Lines and Angles)

Section 3

25. **D** The parallelism of the contrast is the key to this sentence. Because technology is advancing rapidly and becoming more efficient and complex, procedures once considered *modern* and *efficient* are now looked at as *outdated* and *inefficient*. *novel* = new; *ingenious* = brilliant; *innovative* = new and fresh; *inefficacious* = ineffective

26. **C** The phrase *now accepted as an undeniable truth* suggests that the concept was not that way before. Thus the missing word should be in contrast to *undeniable truth*. *incontrovertible* = unable to be disputed; *contentious* = controversial

27. **D** The sentence indicates that the *rare* creatures in the forest might soon become extinct if something *persists*. This implies that something bad is happening to the rain forest. The second missing word should be similar to *rare*. *annihilation* = destruction; *engendered* = brought into existence; *obstinate* = stubborn; *amelioration* = improvement; *vulnerable* = capable of being harmed; *endangered* = at risk of being wiped out completely; *cultivation* = growth; *unyielding* = unwilling to give way

28. **A** The cactus is able to survive in the desert despite the *dry* climate (*water is so scarce*). *arid* = extremely dry; *fervent* = showing great emotion; *lucid* = clear; *banal* = everyday, common; *sweltering* = oppressively hot and humid

29. **E** The manager's explosion of *expletives* (profanities) and *insults* shocked her employees, so she must normally be a *calm, even-tempered* person. *vexed* = bothered, annoyed; *intemperate* = lacking moderation; *belligerent* = warlike; *vivacious* = full of life; *tranquil* = calm, even-tempered

30. **D** A feeling of *profound depression and obsession with death...permeates* (flows throughout) Antonio Calvelli's artwork. The missing word should relate to depression and death. *notorious* = famous for bad deeds or qualities; *lethargy* = a state of sluggishness; *pomposity* = pretentiousness; *morbidity* = relating to death or disease; *humility* = the quality of being humble or modest

31. **A** The clause that follows the semicolon extends the idea in the first clause. Parallelism suggests that the two missing words should be similar to *uncompromising* and *truthful*. *inexorable* = unable to be swayed; *forthright* = honest; *capricious* = whimsical, acting without thought; *candid* = honest; *unrelenting* = unyielding; *perfidious* = treacherous; *intransigent* = refusing to compromise; *guileful* = deceitful; *mercurial* = constantly changing; *veracious* = truthful

32. **C** The word *although* indicates a contrast between ideas in the sentence. The second half of the sentence indicates that Galileo's opinions *contrasted strongly with* the accepted views. Thus, it can be inferred that the *common practice* was to *support* or *follow the beliefs of the church as law*. It can also be inferred that since his opinions *contrasted strongly with* accepted views, they were *controversial*. *iconoclastic* = attacking traditional views; *endorse* = support publicly; *orthodox* = adhering strictly to teaching; *espouse* = give loyalty to; *heretical* = deviating starkly from tradition; *impugn* = attack as false; *dissident* = disagreeing; *advocate* = argue in favor of; *conformist* = deliberately conventional

33. **D** The phrase *that's the way it goes* (lines 16–17) conveys an attitude of resignation, or reluctant acceptance of an unfortunate situation. Passage 2, on the other hand, uniformly praises the noble work of women during the Gold Rush.

34. **E** Passage 1 states that *the mining game . . . is like tossing coins to see who's lucky* (lines 17–18), thereby indicating that success in gold mining was not always guaranteed. Passage 2 states that *gold mining was not always profitable* (lines 23–24) and that women in mining families often had to work hard to feed their families.

35. **B** The first sentence states that *the business of child bearing and rearing went on apace* despite hardships. This indicates the women's steadfast commitment to maintaining their families.

36. **C** The *burden* refers to the task of raising families during the difficult times of the Gold Rush, which is the focus of Passage 2.

37. **E** This paragraph summarizes two *arguments*, or lines of reasoning, that support the practice of *medical confidentiality*. These two arguments do not conflict with each other, so they do not represent a *controversy*; in fact, at the end of the passage the author suggests that the two arguments should be taken together to argue for the principle of confidentiality. Also, neither is the point of view of just one individual; both are stated as general arguments. Lastly, the paragraph presents no *historical background*, nor does it discuss a *misconception*.

38. **C** Line 3 refers to the *utilitarian* argument, which refers to *possible long-term consequences*, but does not specify the kinds of consequences. The second paragraph explains in more detail. It says that the utilitarian argument argues that *without such confidentiality the physician-patient relationship would be seriously impaired* (lines 9–11). In other words, by *utilitarian*, the author means *pertaining to the effectiveness of the physician-patient relationship*.

39. **E** In summarizing the utilitarian argument for medical confidentiality, the author says that *psychotherapists have been particularly concerned to protect the confidentiality of their relationship with patients*. In the context of this paragraph, that can only mean that the success of psychotherapy depends in particularly large measure on the trust of their patients. Although psychotherapists do not use *invasive procedures* as surgeons do, and do require extensive training, these facts are not mentioned in the passage and are irrelevant to the discussion.

40. **A** The center of these *concentric circles* is clearly the patient. The physician and the patient's close friends may be admitted into one or more of

the inner circles, but this suggests that they could not have been at the center of these circles to begin with.

41. **C** In saying that *we would be justified in charging that he had violated the patient's right to privacy*, the author means that we would be justified in *accusing* him of doing something wrong.

42. **B** The term *interwoven* means *enmeshed with other things*. In this case, the other things are the *responsibilities* (line 67) that include *maintaining a high level of skill in medical procedures and knowledge about new medications*. In other words, the term *interwoven* suggests that confidentiality is one of many that the physician is burdened with.

43. **D** The discussion of the origin of the word *confidentiality*, and particularly its relation to the Latin word *fidere*, serves to emphasize a particular shade of meaning within the word. In saying that the term *implies more than keeping secrets*, the author is cautioning the reader against a simplistic interpretation of the word. This caution does not suggest, however, that physicians have been *misusing the term*, but rather that the reader can better understand the nuances of the term by understanding its origin.

44. **C** In saying that confidentiality implies *acting always to inspire the patient that one has his or her best interests in mind*, the author means that doctors should *persuade* their patients that they have their best interests in mind.

45. **B** The *facts* in this discussion include the *fact* (line 96) of his wife's disease or trauma. The discussion does not mention any *therapy, limits of technology, drugs, or the personal life of the physician*.

46. **B** This question summarizes the issue presented in the preceding several sentences, which describe a situation in which the confidences of two patients may be in conflict with each other. It does not *open a new line of investigation*, because a new, but related, topic is discussed in the next sentence. It does not make any *definitive statement* and certainly does not *mock* any class of people. It also does not *indicate the weakness of an argument*, because it does not refer to an argument at all, but simply a complicated issue that must be addressed.

47. **D** The word *levity* means *light-heartedness or good humor*. In this context, it suggests that medical anecdotes can sometimes be humorous.

48. **A** Passage 1 discusses two arguments for medical confidentiality and indicates that confidentiality can be based squarely on this general right to privacy. It does not suggest that there are any exceptions to this right, and it argues that this right constitutes a *strong case* for confidentiality. Therefore, Passage 1 suggests that this right is absolute and inviolable. Passage 2, on the other hand, suggests that there are circumstances in which perhaps this right to privacy might have to be violated, for instance when *public health* (lines 103–104) is at stake.

Section 4

21. **E** Begin by converting the information into an equation:

$$\begin{aligned}x - 3 &= 4 + w \\ \text{Add 3: } x &= 7 + w\end{aligned}$$

Therefore x is 7 more than w
(Chapter 9 Lesson 1: Solving Equations)

22. **B** To find the area of this triangle, find the lengths of the base and the height of the triangle and use the formula $A = \frac{1}{2}bh$. To find the base, find the distance between (3, 1) and (7, 1). Since these points have the same y -coordinate, you can just subtract the x -values of the two coordinates to find the distance: $7 - 3 = 4$.

To find the height, find the distance from the base to the opposite vertex (8, 5). This is simply the vertical distance from $y = 1$ to $y = 5$. So the height is $5 - 1 = 4$.

$$\begin{aligned}\text{Area} &= \frac{1}{2}(b)(h) \\ \text{Area} &= \frac{1}{2}(4)(4) = 8\end{aligned}$$

(Chapter 11 Lesson 5: Areas and Perimeters)

23. **B**

$$\begin{aligned}7b - 8 &\geq 4b + 16 \\ \text{Add 8: } 7b &\geq 4b + 24 \\ \text{Subtract } 4b: &3b \geq 24 \\ \text{Divide by 3: } b &\geq 8\end{aligned}$$

The question says that b must be an *odd* integer, so $b = 9$.

(Chapter 9 Lesson 6: Inequalities, Absolute Values, and Plugging In)

24. **A** Set up a ratio that relates the two areas:

$$\frac{\pi r_A^2}{\pi r_B^2} = \frac{2}{1}$$

$$\text{Simplify: } \frac{r_A^2}{r_B^2} = \frac{2}{1}$$

$$\text{Take the square root: } \frac{r_A}{r_B} = \frac{\sqrt{2}}{1}$$

$$\text{Cross-multiply: } r_A = \sqrt{2}r_B$$

The circumference of circle A is $2\pi r_A = 2\pi\sqrt{2}r_B = \sqrt{2}(2\pi r_B)$, which is $\sqrt{2}$ times greater than the circumference of circle B.

(Chapter 11 Lesson 8: Circles)

(Chapter 11, Lesson 5: Areas and Perimeters)

25. **E**

Begin by writing an equation to solve for the average of the four positive integers.

$$\frac{a + b + c + d}{4} = 12$$

Multiply by 4: $a + b + c + d = 48$

If you want to find the *largest* possible value of one of the integers, make the others as *small* as possible. The problem says that they must be *positive* integers, but it says nothing about them being *different* integers. Therefore you would make each of the three smallest integers 1. $1 + 1 + 1 + d = 48$

Subtract 3: $d = 45$

(Chapter 10 Lesson 2: Mean/Median/Mode Problems)

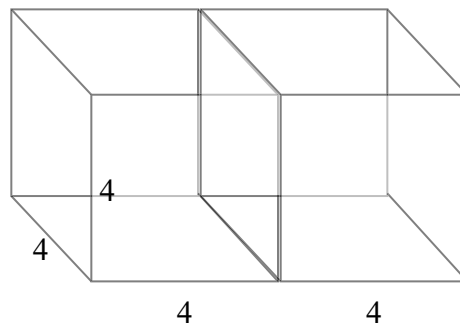
26. **C** The third side of any triangle must have a length that is between the sum and the difference of the other two sides. Since $10 - 6 = 4$ and $10 + 6 = 16$, the third side must be between (but not including) 4 and 16:

$$4 < x < 16$$

Therefore the largest possible integer value of the third side is 15.

(Chapter 11 Lesson 2: Triangles)

27. **D**



When the two cubes are joined together, two of the faces are lost because they are attached to each other. The surface area is just the sum of all the areas on the surface of the shape. Each face

of the shape is a square that has an area of $(4)(4) = 16$ square units. There are 10 faces, which gives a surface area of $10(16) = 160$ square units.

(Chapter 11 Lesson 7: Volumes and 3-D Geometry)

28. **D**

The general strategy is to find out how many games there are if each team plays each other team once and multiply that by 2.

Opponents:	# matches
Team 1: 2, 3, 4, 5, 6	5
Team 2: 3, 4, 5, 6	4
Team 3: 4, 5, 6	3
Team 4: 5, 6	2
Team 5: 6	$\frac{1}{1}$
Total head-to-head matchups:	15

Since they play each other twice, there is a total of $15 \times 2 = 30$ games.

(Chapter 10 Lesson 5: Counting Problems)

29. **30** Set up an equation that represents the information given: Tank A holds 30% less than tank B.

$$A = B - 0.30B = 0.70B$$

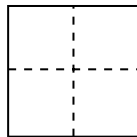
Substitute: $21 = 0.70B$

Divide by 0.7: $30 = B$

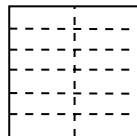
(Chapter 8 Lesson 5: Percents)

30. $\frac{1}{12}$ or 0.08

After the first cut into 4 pieces:



After the second cut:



There are 12 identical pieces after the second cut. This means that there will be a 1 out of 12 probability that she gets the coin.

(Chapter 10 Lesson 6: Probability Problems)

31. **2** Starting with the column on the far right:

$$A + B = 7 \text{ or } A + B = 17$$

Moving on to the second column, we see that:

$$6 + C = B + 10$$

Subtract 6: $C = B + 4$

Subtract B : $C - B = 4$

$$\underline{+C + B = 14}$$

Add equations: $2C = 18$

Divide by 2: $C = 9$

$$C - B = 4$$

Substitute for C : $9 - B = 4$

Subtract 9: $-B = -5$

Divide by -1 : $B = 5$

$$A + B = 7$$

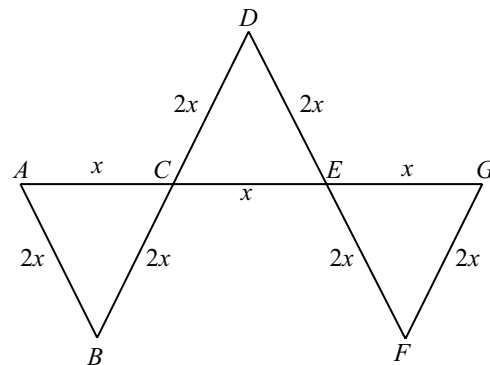
Substitute for B : $A + 5 = 7$

Subtract 5: $A = 2$

Note: $A + B \neq 17$ because since $B = 5$, A would have to be 12 and these letters must be DIGITS, not integers.

(Chapter 10 Lesson 3: Numerical Reasoning Problems)

32. **9**



The fact that the angles are equal is important because $\angle ACB = \angle DCE$ because they are vertical angles. We also know that $\angle GEF = \angle DEC$ because they are vertical angles. If $\angle ACB = \angle DCE$ and $\angle ACB = \angle DEC$, then $\angle DCE = \angle DEC$. This tells us that $DC = DE = 2x$. Since all 3 triangles are identical, we can label the sides as they are in the diagram above.

Set up an equation for the perimeter:

$$2x + 2x + x + 2x + 2x + x + 2x + 2x + x = 45$$

Combine terms: $15x = 45$

Divide by 15: $x = 3$

Plug in for x : $AG = 3x = 3(3) = 9$

(Chapter 11 Lesson 1: Lines and Angles)

33. **2304**, To solve this problem, just multiply the expressions together:

$$bc \times cf \times fh \times bh = b^2c^2f^2h^2$$

Substitute: $4 \times 6 \times 12 \times 8 = b^2c^2f^2h^2$

Simplify: $2,304 = b^2c^2f^2h^2$

(Chapter 10 Lesson 3: Numerical Reasoning Problems)

34. **I** If you look at set X , all of the members are even. All of the members of set Y are odd. When an even number is added to an odd number, the result is always odd. Therefore the probability that the sum would be odd is 1.

(Chapter 10 Lesson 3: Numerical Reasoning Problems)

35. **6** There are multiple triangles in this problem. Set up equations for the two larger triangles and stack them.

$$a + b + 47 = 180$$

$$a + c + 53 = 180$$

Subtract: $b - c - 6 = 0$

Add 6: $b - c = 6$

(Chapter 11 Lesson 2: Triangles)

(Chapter 9 Lesson 2: Systems)

36. **82** Begin by setting up an equation that you can use to calculate the average of the first eight students.

$$\frac{a + b + c + d + e + f + g + h}{8} = 87$$

Multiply by 8: $a + b + c + d + e + f + g + h = 696$

This means the 8 students scored a total of 696 points.

Now set up an equation to find the average of the entire

20-student class: $\frac{a + b + c + \dots + q + r + s + t}{20} = 84$

Multiply by 20: $a + b + c + \dots + q + r + s + t = 1,680$

The class as a whole scored 1,680 points.

Therefore, the remaining 12 students scored $1,680 - 696 = 984$ points. To find the average for those 12 students, divide their point total by 12: $984 \div 12 = 82$.

(Chapter 10 Lesson 2: Mean/Median/Mode Problems)

37. **10**

The first 9 terms are written out for you. Identify the repeating pattern: $-4, 2, 4, \dots$

The pattern repeats every 3 digits, and the sum of each repetition of the pattern is $-4 + 2 + 4 = 2$.

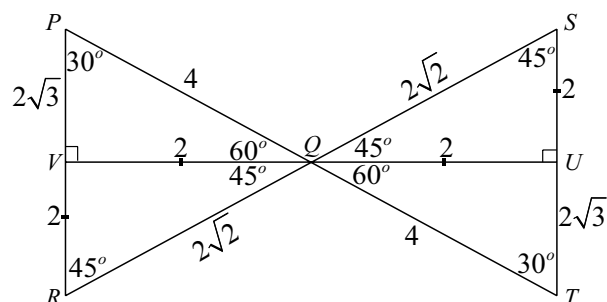
The pattern occurs $20 \div 3 = 6.67$ times, or 6 with remainder 2.

The 6 full repetitions have a sum of $6 \times 2 = 12$.

The nineteenth term is -4 and the twentieth term is 2 , so the overall sum is $12 + (-4) + 2 = 10$.

(Chapter 10 Lesson 7: Sequences)

38. **11** The problem tells us that VU is perpendicular to PR and ST so that we know to draw the right angles.



We are given the angles equal to 60° so that we know that triangles PVQ and TUQ are $30-60-90$ triangles. We are told that $\overline{VQ} = \overline{VR} = \overline{SU} = \overline{TU} = 2$ so that we know that triangles QVR and SUQ are $45-45-90$ triangles. The actual lengths of the various sides have been filled in based on the special triangle relationships.

The area of triangles QVR and SUQ can be found by: $A = \frac{1}{2}(2)(2) = 2$.

The area of triangles PVQ and TUQ can be found by:

$$A = \frac{1}{2}(2)(2\sqrt{3}) = 2\sqrt{3}$$

The area of the entire figure equals:

$$2(2\sqrt{3}) + 2(2) = 4 + 4\sqrt{3} = 10.92 = 11$$

(Chapter 11 Lesson 2: Triangles)

(Chapter 11 Lesson 5: Areas and Perimeters)

Section 5

1. **B** The original sentence lacks the *as ... as* construction that should accompany this comparison. Answer choice (B) best corrects the error. (Chapter 13 Lesson 4: Comparison Errors)

2. **B** This contains a dangling modifier. The modifying phrase that begins the sentence describes the *medication*, not the *people* who prefer the medication. (Chapter 13 Lesson 7: Dangling and Misplaced Participles)

3. **C** The word *meticulous* is an adjective and can thus modify only a noun. But since it modifies the verb *sifted*, the adverb *meticulously* is needed here. (Chapter 13 Lesson 12: Other Problems with Modifiers)

4. **D** The two clauses are not properly coordinated. The semicolon is used to join two closely related independent clauses in a single sentence. (C) does not work because the second clause cannot stand alone. (Chapter 13 Lesson 15: Coordinating Ideas)

5. **A** The sentence is correct.

6. **B** This contains a dangling modifier. The participial phrase that begins the sentence describes *Gerard*, not the *feeling of accomplishment* that drives him. (Chapter 13 Lesson 7: Dangling and Misplaced Participles)

7. **A** The sentence is correct.

8. **C** This question is tricky. The subject of the verb is the plural subject *professors*, not *Doctor Strathmore*. So the verb should be *are* and not *is*. (Chapter 13 Lesson 1: Subject-Verb Disagreement)

9. **C** The two clauses are not properly coordinated. A semicolon should be used to join the two independent clauses in a single sentence. (C) is the most concise, logical, and complete. (Chapter 13 Lesson 15: Coordinating Ideas)

10. **E** The original sentence is in the wrong mood. Answer choice (E) is clear and concise and appropriately conveys the conditional nature of the wish, since the event did not actually take place. (Chapter 13 Lesson 14: The Subjunctive Mood)

11. **B** The original phrasing contains a comparison error, comparing *high school students today* to *10 years ago*. Choice (B) best corrects the mistake. (Chapter 13 Lesson 4: Comparison Errors)

12. **E** When *one* is used as a subject in the beginning of a sentence, it is improper to then use *you* later on in that same sentence to refer to the same subject. It must either be *one* and *one* or *you* and *you*. Choice (E) corrects this mistake in the most concise and logical way. (Chapter 13 Lesson 5: Pronoun Agreement)

13. **C** This contains a dangling modifier. The participial phrase that begins the sentence describes *Lisa*, not the *promotion* she has been offered. Answer choice (C) is the most concise and logical correction of the error. (Chapter 13 Lesson 7: Dangling and Misplaced Participles)

14. **B** The sentence is not parallel. The first two items in the list establish the pattern, *eat, ... dress, ...* So the last item should be *get ...* (Chapter 13 Lesson 3: Parallelism)

15. **C** This is a diction error. *Illicit* means unlawful, which makes no sense here. The word should be *elicit*. (Chapter 13 Lesson 11: Diction Errors)

16. **C** The two clauses are not properly coordinated. A semicolon should be used to join the two independent clauses in a single sentence. (C) is the most concise, logical, and complete. (Chapter 13 Lesson 15: Coordinating Ideas)

17. **C** This is an error in word order. Choices (A), (B), (D), and (E) are incorrect because of a dangling participle. Answer choice (C) is the only one that eliminates this error. (Chapter 13 Lesson 7: Dangling and Misplaced Participles)

18. **E** The sentence suggests that Christmas vacation has yet to arrive. Answer choice (E) uses the future perfect tense and corrects this error in the most concise and logical way. (Chapter 13 Lesson 9: Tricky Tenses)

19. **A** The sentence is correct.

20. **B** Napoleon Bonaparte lived in the eighteenth and nineteenth centuries. Thus his argument

obviously occurred in the past. This eliminates answer choices (A) and (D). Answer choice (B) is the most concise and clear choice and in the proper tense. (Chapter 13 Lesson 9: Tricky Tenses)

21. **E** The sentence is correct.

22. **C** The pronoun *their* does not agree with its antecedent *anyone*, which is singular, and should be changed to *his or her*. (Chapter 13 Lesson 5: Pronoun Agreement)

23. **B** The verb *is* is in the wrong tense. It should be in the present perfect tense, *has been*, because he was promoted last week, which suggests that he is *still* working there. (Chapter 13 Lesson 9: Tricky Tenses)

24. **C** The pronoun *their* does not agree with its antecedent, *bug*, which is singular, and should be changed to *its*. (Chapter 13 Lesson 5: Pronoun Agreement)

25. **C** The pronoun *she* is an ambiguous pronoun. We cannot tell whether it is referring to Erica or Lydia as it is written. Correct the error by specifying whether it was Erica or Lydia who was laughing. (Chapter 13 Lesson 5: Pronoun Agreement)

26. **D** This is a comparison error. Because the sentence compares *two* nations, the comparative *stronger* should be used instead of *strongest*. (Chapter 13 Lesson 4: Comparison Errors)

27. **B** The subject of the verb is the plural *text-books*. Hence, the verb should be *were* instead of *was*. (Chapter 13 Lesson 1: Subject-Verb Disagreement)

28. **B** *Leaving* is the object, so the pronoun should not be in the objective case, but rather in the possessive case, *his*. (Chapter 13 Lesson 6: Pronoun Case)

29. **A** This sentence contains a misplaced modifier. As written, this sentence suggests that the *marathon* is not in peak physical condition. The phrase *If not* should be changed to *If one is not* to remove the misplaced modifier error. (Chapter 13 Lesson 7: Dangling and Misplaced Participles)

30. **A** It would be a protest *against* the social and political control rather than a protest *on* the social

and political control. (Chapter 13 Lesson 10: Idiom Errors)

31. **E** The sentence is correct.

32. **D** This sentence violates the law of parallelism. The President *cut* taxes and *lowered* interest rates. To create parallel sentence structure, it should be changed to *increased* spending. (Chapter 13 Lesson 3: Parallelism)

33. **B** The Egyptians would be preoccupied *with* death rather than preoccupied *in* death. (Chapter 13 Lesson 10: Idiom Errors)

34. **C** The subject of the verb is lavender. Since the subject is singular, the verb should be *is* instead of *are*. (Chapter 13 Lesson 1: Subject-Verb Disagreement)

35. **B** This sentence provides another example of a nonspecific defense mechanism, and so the most sensible place for the new example is after sentence 3 in between two other examples that are discussed in the passage. (Chapter 13 Lesson 15: Coordinating Ideas)

36. **C** This paragraph is discussing a nonspecific cellular defense mechanism involving cells called phagocytes. Sentence 8 introduces a definition of the term *antigen*, which is not mentioned again anywhere else in the passage. Removing this sentence would actually improve the passage. (Chapter 13 Lesson 15: Coordinating Ideas)

37. **D** Choice (D) provides the most logical, concise, and clear phrasing. (Chapter 13 Lesson 15: Coordinating Ideas)

38. **B** Choice (B) provides the most logical, concise, and clear phrasing. (Chapter 13 Lesson 15: Coordinating Ideas)

39. **A** Choice (B) is not a good fit because it would end the paragraph with an introduction to a new topic. Choice (C) would be out of place if written after sentence 17. Choice (D) discusses vaccines, which are not mentioned anywhere else in this passage. Choice (E) may well be a correct fact, but it does not function as a good conclusion to the passage. Choice (A) is the best choice because it sums up the immune process just discussed and explains why it is nonspecific. (Chapter 13 Lesson 15: Coordinating Ideas)