Answer Sheet for FTCE General Knowledge Diagnostic Examination

(Remove This Sheet and Use It To Mark Your Answers)

Diagnostic General Knowledge Test: Essay

Write your essay on lined paper.

Diagnostic General Knowledge Test: English Language Skills

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

Diagnostic General Knowledge Test: Mathematics

21 Ⓐ Ⓑ Ⓒ Ⓓ	31 Ⓐ Ⓑ Ⓒ Ⓓ
22 Ⓐ Ⓑ Ⓒ Ⓓ	32 Ⓐ Ⓑ Ⓒ Ⓓ
23 Ⓐ Ⓑ Ⓒ Ⓓ	33 Ⓐ Ⓑ Ⓒ Ⓓ
24 Ⓐ Ⓑ Ⓒ Ⓓ	34 Ⓐ Ⓑ Ⓒ Ⓓ
25 Ⓐ Ⓑ Ⓒ Ⓓ	35 Ⓐ Ⓑ Ⓒ Ⓓ
26 Ⓐ Ⓑ Ⓒ Ⓓ	36 Ⓐ Ⓑ Ⓒ Ⓓ
27 Ⓐ Ⓑ Ⓒ Ⓓ	37 Ⓐ Ⓑ Ⓒ Ⓓ
28 Ⓐ Ⓑ Ⓒ Ⓓ	38 Ⓐ Ⓑ Ⓒ Ⓓ
29 Ⓐ Ⓑ Ⓒ Ⓓ	39 Ⓐ Ⓑ Ⓒ Ⓓ
30 Ⓐ Ⓑ Ⓒ Ⓓ	40 Ⓐ Ⓑ Ⓒ Ⓓ

Diagnostic General Knowledge Test: Reading

41 Ⓐ Ⓑ Ⓒ Ⓓ	51 Ⓐ Ⓑ Ⓒ Ⓓ
42 Ⓐ Ⓑ Ⓒ Ⓓ	52 Ⓐ Ⓑ Ⓒ Ⓓ
43 Ⓐ Ⓑ Ⓒ Ⓓ	53 Ⓐ Ⓑ Ⓒ Ⓓ
44 Ⓐ Ⓑ Ⓒ Ⓓ	54 Ⓐ Ⓑ Ⓒ Ⓓ
45 Ⓐ Ⓑ Ⓒ Ⓓ	55 Ⓐ Ⓑ Ⓒ Ⓓ
46 Ⓐ Ⓑ Ⓒ Ⓓ	56 Ⓐ Ⓑ Ⓒ Ⓓ
47 Ⓐ Ⓑ Ⓒ Ⓓ	57 Ⓐ Ⓑ Ⓒ Ⓓ
48 Ⓐ Ⓑ Ⓒ Ⓓ	58 Ⓐ Ⓑ Ⓒ Ⓓ
49 Ⓐ Ⓑ Ⓒ Ⓓ	59 Ⓐ Ⓑ Ⓒ Ⓓ
50 Ⓐ Ⓑ Ⓒ Ⓓ	60 Ⓐ Ⓑ Ⓒ Ⓓ

CUT HERE

CUT HERE

General Knowledge Diagnostic Test: Essay

This section of the examination involves a written assignment. You are asked to prepare a written response for *one of the two topics* presented. Select one of these two topics and prepare a 300–600 word response. Be sure to read both topics very carefully to make sure that you understand the topic for which you are preparing a written response. Use your allotted time to plan, write, review, and edit what you have written for the assignment.

Topic 1

     A place you would like to visit

Topic 2

     An invention that changed the world

Be sure to read the two topics again before attempting to write your response. Remember to write your answer on the space provided in the examination booklet.

Your essay is graded holistically, meaning only one score will be assigned for your writing—taking into consideration both mechanics and organization. *You will not be scored on the nature of the content or opinions expressed in your work.* Instead, you are graded on your ability to write complete sentences, to express and support your opinions, and to organize your work.

At least two evaluators review your work and assign it a score. Special attention is paid to the following more specific indications in your writing.

- Does your writing demonstrate a strong definitive purpose?
- Is there a clear thesis or statement of a main idea?
- Are your ideas organized?
- Do you support your thesis with clear details?
- Are effective transitions present?
- Do you demonstrate an effective use of language?
- Are a variety of sentence patterns present?
- Is there a consistent point of view?
- Are the conventions of standard American English used?

Before you begin, be sure you plan what you want to say. Organize your thoughts and carefully construct your ideas. This should be your original work, written by your own hand, and in your own voice.

As you write your piece, you may cross out or add information as necessary. Although handwriting does not count, be sure to be legible in your response.

For those individuals who cannot physically write, you can arrange for a proxy to do your writing. Please contact the Florida Certification office before you take the examination to make the necessary accommodations.

General Knowledge Diagnostic Test: English Language Skills

Directions: For items 1 and 2, read the entire passage carefully and then answer the questions. Please note that intentional errors have been included in this passage. This passage is designed to measure both the identification of logical order in a written passage and the presence of irrelevant sentences.

(1) If you traveled in America's heartland—the great American West—you would see large tracts of land with very few people, homes, or businesses. (2) For the most part, you would travel through large stretches of America's great landscapes, used primarily for ranching and farming. (3) Generally, the people who live in America's West do the work that best supports the land on which they live. (4) In fact, some places exist where there are less than two people per square mile. (5) For the most part, people living in the West farm or ranch. (6) Los Angeles is a very busy place with a high population density. (7) For example, farmers in Idaho grow potatoes; Washington is known for its apples; and California alone grows more than half the fruits and vegetables raised in the United States. (8) Much of the land in the West is rugged, however, and on this land, the landowners raise cattle.

1. Select the arrangement of sentences 2, 3 and 4 that provides the most logical sequence of ideas and supporting details in the paragraph. If no change is needed, select Choice A.

   A. For the most part, you would travel through large stretches of America's great landscapes, used primarily for ranching and farming. Generally, the people who live in America's West do the work that best supports the land on which they live. In fact, some places exist where there are less than two people per square mile.

   B. For the most part, you would travel through large stretches of America's great landscapes, used primarily for ranching and farming. In fact, some places exist where there are less than two people per square mile. Generally, the people who live in America's West do the work that best supports the land on which they live.

   C. Generally, the people who live in America's West do the work that best supports the land on which they live. In fact, some places exist where there are less than two people per square mile. For the most part, you would travel through large stretches of America's great landscapes, used primarily for ranching and farming.

   D. Generally, the people who live in America's West do the work that best supports the land on which they live. For the most part, you would travel through large stretches of America's great landscapes, used primarily for ranching and farming. In fact, some places exist where there are less than two people per square mile.

2. Which numbered sentence is LEAST relevant to the passage?

   A. Sentence 5
   B. Sentence 6
   C. Sentence 7
   D. Sentence 8

Directions: For questions 3–17, select the answer choice that corrects an error in the underlined portion. If there is no error, choose **D** indicating "No change is necessary."

3. Everyone <u>accepted</u> the presents from the
_[A]

  <u>principle</u> and the members of the school <u>board</u>.
  _[B]   _[C]

  A. excepted
  B. principal
  C. bored
  D. No change is necessary.

4. My father, <u>Doctor</u> Leonard Pitts, teaches <u>English</u>
_[A]   _[B]

  to foreign-born students, every <u>spring</u> academic
  _[C]

  term.

  A. doctor
  B. english
  C. Spring
  D. No change is necessary.

5. In the book *Gone With the Wind*, <u>author</u>
_[A]

  Margaret Mitchell writes about the life and times

  in the <u>South</u> during the <u>civil war, this</u> was a
  _[B]   _[C]

  time of great strife in American public life.

  A. Author
  B. South
  C. Civil War. This
  D. No change is necessary.

6. Formerly, science was taught by the textbook
  <u>method, now</u> it is taught by the laboratory
  method.

  A. method; now it is
  B. method. While now it
  C. method while now
  D. No change is necessary.

7. The <u>alternate</u> plan <u>is</u> a good substitute for
  _[A]   _[B]

  <u>affecting</u> a change in his personality.
  _[C]

  A. alternative
  B. was
  C. effecting
  D. No change is necessary.

8. <u>When</u> the students were on the field trip to the
_[A]

  <u>museum they</u> took notes in <u>their</u> journals.
  _[B]   _[C]

  A. Whenever
  B. museum, they
  C. there
  D. No change is necessary.

9. The professor felt <u>badly</u> about giving a failing
_[A]

  grade on the <u>English</u> paper to the son of the <u>dean</u>
  _[B]   _[C]

  of the College of Fine Arts.

  A. bad
  B. english
  C. Dean
  D. No change is necessary.

10. I am <u>concerned because</u> the relationship between
_[A]

  <u>you and I</u> is <u>definitely</u> unfriendly.
  _[B]   _[C]

  A. concerned, because
  B. you and me
  C. definately
  D. No change is necessary.

11. My son, <u>who</u> is a star basketball player, is <u>much</u>
_[A]   _[B]

  taller than <u>me</u>.
  _[C]

  A. whom
  B. more
  C. I
  D. No change is necessary.

12. Each of the women gave <u>their</u> account of <u>what</u>
_[A]   _[B]

  caused the accident <u>between</u> the pickup truck and
  _[C]

  the luxury vehicle.

  A. her
 B. whatever
  C. among
  D. No change is necessary.

13. Through a survey of the student population, we
[A]   [B]
obtained data that show strong support for the
[C]
new school logo.

   A. Threw
   B. population we
   C. shows
   D. No change is necessary.

14. Because the teacher had assigned a number of homework problems, the students should have began the assignment before they left class.

   A. should of began
   B. should have begun
   C. should of begun
   D. No change is necessary.

15. When I was a student, I had made very good grades.

   A. have made
   B. made
   C. had been making
   D. No change is necessary.

16. My children had some old toys that were still in
[A]
good condition, so I gave them to a local charity.
[B]   [C]
   A. are
   B. well
   C. the toys
   D. No change is necessary.

17. The principle reason I am not supporting that
[A]
candidate is that he has been dishonest with the
[B]   [C]
taxpayers.

   A. principal
   B. because
   C. have been
   D. No change is necessary.

18. Michael, leader of the student prom committee and a high school senior, is speaking to the faculty of his high school, requesting that juniors and seniors be allowed to leave early on the day of the prom. Choose the most appropriate opening statement.

   A. "My esteemed colleagues and learned teachers, before we digress, let us consider the delicate issue of leaving class early on the days of joyous occasions. The need to leave our halls of academe. . ."
   B. "As you know, nothing really happens in class on the day of the high school prom! So, why not let us go home early?"
   C. "Good afternoon. Before I begin, let me say that many students—juniors and seniors, in particular—have been working very hard on this year's high school prom. We are very much looking forward to attending."
   D. "Hey! Don't you think seniors deserve a break? Why not let them skip school on the day of this year's prom?"

19. Choose the sentence that is punctuated correctly.

   A. After hearing the two customer's complaints about being overcharged, the store manager gave each of them a $10 gift certificate.
   B. After hearing the two customer's complaints about being overcharged the store manager gave each of them a $10 gift certificate.
   C. After hearing the two customers' complaints about being overcharged, the store manager gave each of them a $10 gift certificate.
   D. After hearing the two customers' complaints' about being overcharged, the store manager gave each of them a $10 gift certificate.

20. Choose the sentence in which the modifiers are placed correctly.

   A. Driving along the highway, Paul was surprised by a sudden noise coming from the trunk of the car.
   B. Paul was surprised by a sudden noise coming from the trunk of the car driving along the highway.
   C. Coming from the trunk of the car, Paul was surprised by a sudden noise driving along the highway.
   D. Driving along the highway, coming from the trunk of the car, Paul was surprised by a sudden noise.

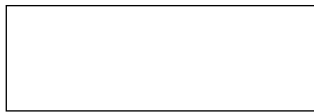# General Knowledge Diagnostic Test: Mathematics

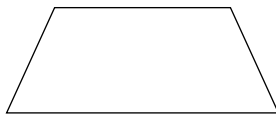## Mathematics Reference Sheet

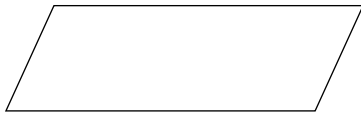## Area
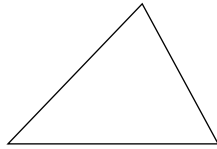
Triangle $A = \frac{1}{2}bh$
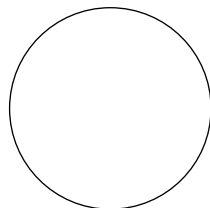
Rectangle $A = lw$

Trapezoid $A = \frac{1}{2}h(b_1 + b_2)$

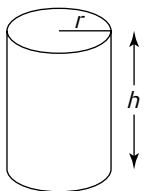**Parallelogram** $A = bh$

Circle $A = \pi r^2$
$C = \pi d = 2\pi r$

Key	
b = base	d = diameter
h = height	r = radius
l = length	A = area
w = width	C = circumference
S.A. = surface area	V = volume
	B = area of base

Use $\pi = 3.14$ or $\frac{22}{7}$

Surface Area

1. Surface area of a prism or pyramid = the sum of the areas of all faces of the figure.

2. Surface area of a cylinder = the sum of the two bases + its rectangular wrap.
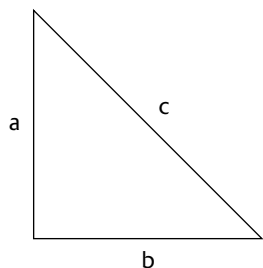
$S.\,A. = 2(\pi r^2) + 2(\pi r)h$

3. Surface area of a sphere: $S.A. = 4\pi r^2$

Volume

1. Volume of a prism or cylinder equals (Area of the Base) times (height): $V = Bh$

2. Volume of a pyramid or cone equals $\frac{1}{3}$ times (Area of the Base) times (height): $V = \frac{1}{3}Bh$

3. Volume of a sphere: $V = \frac{4}{3}\pi r^3$

17

Mathematics Reference Sheet, continued

Pythagorean Theorem: $a^2 + b^2 = c^2$

Simple Interest Formula: $I = prt$

I = simple interest, p = principal

r = rate, t = time

Distance Formula: $d = rt$

d = distance, r = rate, t = time

Given a line containing points

(x_1, y_1) and (x_2, y_2),

- Slope of line = $\dfrac{y_2 - y_1}{x_2 - x_1}$

- Distance between two points =

$$\sqrt{\left(x_2 - x_1\right)^2 + \left(y_2 - y_1\right)^2}$$

- Midpoint between two points =

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

Conversions	
1 yard = 3 feet = 36 inches	1 cup = 8 fluid ounces
1 mile = 1,760 yards = 5,280 feet	1 pint = 2 cups
1 acre = 43,560 square feet	1 quart = 2 pints
1 hour = 60 minutes	1 gallon = 4 quarts
1 minute = 60 seconds	1 pound = 16 ounces
	1 ton = 2,000 pounds
1 liter = 1000 milliliters = 1000 cubic centimeters	
1 meter = 100 centimeters = 1000 millimeters	
1 kilometer = 1000 meters	
1 gram = 1000 milligrams	
1 kilogram = 1000 grams	

Note: Metric numbers with four digits are written without a comma (e.g., 2543 grams).

For metric numbers with more than four digits, a space is used instead of a comma (e.g., 24 300 liters).

Directions: Read each question and select the best answer choice.

21. Perform the indicated operations: $-9(5) - 18 \div 3^2$

    A. -3
    B. -7
    C. -47
    D. 47

22. In 1965, the tuition at a certain university was $5 per semester credit hour. In 2005, the tuition had increased to $80 per semester credit hour. What is the increase in tuition cost for a 15 semester-credit-hour course load?

    A. $75
    B. $1200
    C. $1125
    D. $1275

23. Which of the following expressions is NOT equivalent to the others?

    A. $3^3 \times 8^2$
    B. $2^6 \times 9 \times 3$
    C. 32×54
    D. 9×16

24. Perform the indicated operations: $\dfrac{54 \times 10^{12}}{6 \times 10^4}$

    A. 9×10^{-8}
    B. 9×10^8
    C. 9×10^3
    D. 9×10^{-3}

25. If 12 of the 150 fans who attended a football game on a particular Saturday were parents of students, what percent of the fans were students' parents at the game on that Saturday?
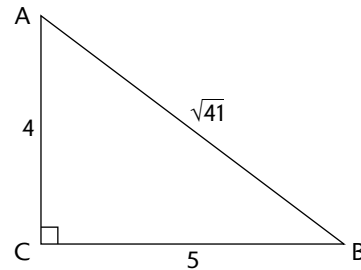
    A. 0.08%
    B. 8%
    C. 12%
    D. 80%

26. If $x = -2$ and $y = -10$, then $x - y =$ what?

    A. 8
    B. -8
    C. 12
    D. -12

27. Which of the following statements is true?

    A. $\dfrac{4}{7} > \dfrac{5}{9}$
    B. $0.5 < 0.35$
    C.   5% of 60 < 10% of 20
    D. $-18 > -5$

28. In right triangle ABC, the length of side AB, the hypotenuse of the right triangle, is $\sqrt{41}$. What is the approximate value of $\sqrt{41}$?

    A.   Between 4 and 5
    B.   Between 5 and 6
    C.   Between 6 and 7
    D.   Between 36 and 49

29. The distance from the Earth to the Sun is approximately 93,000,000 miles. Which of the following numbers shows the approximate distance from the Earth to the Sun in scientific notation?

    A. 9.3×10^8
    B. 9.3×10^7
    C. 9.3×10^{-8}
    D. 9.3×10^{-7}

30. A fitness club charges its members a $300 annual fee plus $5 every time a member brings a guest to the club pool. The fitness club charges no other additional fees. Donna was charged a total of $385 last year in membership fees to the fitness club. How many times did she bring a guest to the fitness club pool?

    A.   77
    B.   60
    C.   27
    D.   17

31. An artist cut out a circular piece of stained glass with a radius of 4.1 centimeters. The artist then calculated the area of the piece of glass. Which of the following is a reasonable estimate for the artist's calculation of the area of the piece of glass?

    A. 25 cm^2
    B. 50 cm^2
    C. 160 cm^2
    D. 200 cm^2

32. An architect built a scale model of an office building to show her client. The front of the office building will have a rectangular shape. The length of the front of the model is 12.5 inches, and its width is 7.5 inches. If the actual length of the front of the office building will be 100 feet long, how wide will its actual width be?

    A. 60 feet
    B. 75 feet
    C. 166 feet
    D. 750 feet

33. Determine which of the following ordered pairs satisfies the given system.

    $3x + y = 2$
    $x + 2y = 9$

    A. $(-1,-5)$
    B. $(1,-5)$
    C. $(1,5)$
    D. $(-1,5)$

34. A 13-foot piece of lumber is leaning against the wall of a building. The bottom of the piece of lumber is 5 feet from the base of the wall. How high up the wall does the piece of lumber reach?

    A. 18 feet
    B. 14 feet
    C. 12 feet
    D. 8 feet

35. A spinner for a board game has 4 red sections, 3 yellow sections, 2 blue sections, and 1 green section. The sections are all of equal size. What is the probability of spinning yellow on the first spin and blue on the second spin?

    A. $\frac{3}{50}$
    B. $\frac{2}{25}$
   C. $\frac{3}{10}$
    D. $\frac{1}{5}$

36. Which of the following statements is always true about parallelograms?

    A. All angles are 90°.
    B. All sides are congruent.
    C. Opposite sides are parallel.
    D. The diagonals are perpendicular to each other.

37. A student needs an average of at least 90 on four tests to earn an A in a college course. The student has grades of 87, 91, and 83 on the first three tests. What is the *lowest* grade the student can make on the fourth test and still receive an A in the course?

    A. 90
    B. 95
    C. 96
    D. 99

38. The graph shows a budget for a monthly salary after taxes.
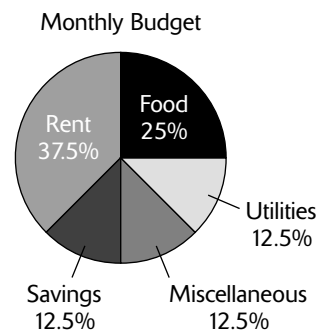
    Monthly Budget

    If the monthly salary is $2,800, how much money is budgeted for rent?

    A. $105
    B. $350
    C. $700
    D. $1,050

39. Kathryn runs 5 kilometers each day for 7 days and records the following running times: 24 minutes, 21 minutes, 21 minutes, 25 minutes, 21 minutes, 22 minutes, 27 minutes. What is the median running time for the 7 days?

    A. 21
    B. 22
    C. 23
    D. 25

40. For lunch Richard can choose from three types of sandwiches: ham, turkey, or peanut butter. He can choose from two drinks: milk or juice. How many possible combinations of sandwiches and drinks can Richard choose for lunch?

    A. 4
    B. 5
    C. 6
    D. 7

General Knowledge Diagnostic Test: Reading

Directions: Please read the following passages carefully. Each passage in this section is followed by questions based on the passage's content. After reading each passage, answer the questions by choosing the best answer from among the four choices given. Be sure to base your answers on what is *implied* or *stated* in the passage.

Passage 1

Los Angeles

(1) Los Angeles, California, is a fascinating place to live and work. There are many exciting venues to explore and enjoy. Home to more than twelve million people, Los Angeles and its surrounding suburbs teem with people from all walks of life who are engaged in all sorts of conventional and unconventional activities and employment. Thus, given its population size and metropolitan allure, Los Angeles has become a mecca for young people seeking to make their fortune in this growing and tantalizing economy. For even though the Los Angeles community is an expensive place to live, the return on one's investment in both real estate and vocational possibilities can be endless and substantial.

(2) Like many places in the United States, Los Angeles has much to offer its people. It has beautiful, sandy beaches that stretch endlessly along its sun-drenched west coast. Sports fans can be entertained by baseball games at Dodger Stadium and football games at the Memorial Coliseum. If they prefer to play instead of watch, recreational enthusiasts can find any number of outdoor facilities, including sports fields, golf courses, tennis courts, hiking and jogging paths, and horseback riding trails. For cultural enthusiasts, the Los Angeles community offers a plentitude of venues to suit every artistic need and desire imaginable. Plays, concerts, operas, ballets, choirs, and orchestras can be enjoyed at the Los Angeles' Music Center for the Performing Arts or any of the dozens of other venues situated throughout this highly artistic community. And if reading is your hobby, the Los Angeles Public Library is the third largest library in the United States, housing more than five million books.

(3) To be sure, newcomers to the Los Angeles area have little problem finding good times. Often times, though, they have trouble finding affordable housing. Los Angeles and its surrounding community have little land left on which to build homes. In fact, new homes are usually built on land once occupied by older homes, or large, towering apartment buildings are constructed, designed to house a maximum number of people within a small, confined erect space. The result is that living space in Los Angeles is at an all-time premium. Consequently, many people who can afford to do so move to houses in the suburbs, or even miles away in surrounding communities. Once there, they make the long daily commute to their places of work in Los Angeles proper. For these traveling commuters, Los Angeles is the home to more than 750 miles of freeway, which to the delight of its many commuters is toll free.

(4) Rapid growth, like elsewhere, has created its share of problems for the Los Angeles community. Exhaust fumes from vehicles and smoke from working factories continue to create their share of air pollution. And although governmental regulations in recent years have cut down on some potential environmental damage, there is still a considerable health hazard for those who live in this densely populated and congested community. Besides tackling these environmental concerns, the city is also working to improve transportation, build affordable housing, construct world-class public schools, and provide for its growing number of indigent and poor. Moreover, Los Angeles, like most of California, has a burgeoning immigrant population. These foreign-born nationals come with their own set of concerns and issues, but nothing Los Angeles cannot handle. Los Angeles—despite all its problems—is one of the most exciting cities in the world to visit, and—if you are lucky enough—to live and work in as well.

41. The main idea of this passage is

   A. Los Angeles is a thriving metropolitan community.

   B. Los Angeles is an expensive place to work and live.

   C. Los Angeles is a city of immigrants and natives.

   D. Los Angeles is a city both in transition and stasis.

42. In paragraph 2, the author is telling the reader

    A. about Los Angeles' rich, cultural offerings.

    B. about Los Angeles' leading economic indicators.

    C. about Los Angeles' diverse cultural venues.

    D. about Los Angeles' social restorative powers.

43. As implied in this passage, Los Angeles is experiencing

    A. the implicit consequences of urban sprawl.

    B. a dramatic increase in affordable living space.

    C. tension between urban and rural environments.

    D. tension between diverse races.

44. Overall, the author's tone is

    A. cautiously pessimistic.

    B. decisively sarcastic.

    C. implicitly realistic.

    D. deliberately noncommittal.

45. In the first paragraph, the word *mecca* means

    A. melting pot.

    B. transition.

    C. retreat.

    D. destination.

Passage 2

A Simple Token System for David

(1)   David, an eight-year-old boy in a regular second-grade classroom, was brought to see the elementary school guidance counselor because his parents were having difficulty managing his behavior at school and at home. David is an only child and functions in the type of home environment that "only children" usually have. He has doting and overprotective parents and little, if any, conflict over sharing his toys and possessions. Still, like many young children, David has a persistent stubborn streak. At home, he does what he wants to do when he wants to do it. Driving his parents crazy seems to be David's favorite pastime. He does not stay in his bed at night, does not follow directions, and only eats certain foods. His deliberate defiance also is beginning to appear in his second-grade class where he does not pay attention, complete his assignments, or stay put in his chair. He is beginning to annoy the other children and distract them from their work. Naturally, his parents, his teacher and his counselor are upset and desire to change his behavior.

(2)   David's elementary school guidance counselor suggests that David's parents faithfully observe and record their son's behaviors, so that—in time—they can make necessary modifications. Agreeing that they should limit their observations to just one behavior problem, David's parents decide that getting out of bed at night is the most troublesome behavior he exhibits at home and should be handled first.

(3)   Soon, their observations give way to a solution. After discussing several possible strategies to keep David from leaving his bed at night, his parents agree to use a simple token system. David is shown a chart and told that if he stays in his bed from the time he is tucked in at night until the next morning, he will get a star to paste on his chart. Five stars collected in a row means that David can select a small toy as a reward. In addition, his parents will give him lots of praise that next morning.

(4)   To his parent's surprise, almost immediately, David's behavior dramatically reverses. Within days of initiating this behavior modification system, David stays in bed all night. Translating their success into other concerns, David's parents begin to keep behavior modification charts to monitor David's other problems. Quickly, David begins to comply, and soon, he is following directions, eating all his meals, performing well in school, and acting as a healthy and happy eight year old. Instituting a simple token system to modify noncompliant behavior proved to be the remedy for improving young David's home and school performance. Thus, this case demonstrates how guidance counselors can effectively help parents and teachers shape children's behaviors.

46. The *simple token system* is a method that best fits within the larger context of

    A. behaviorism.

    B. humanism.

    C. constructivism.

    D. essentialism.

47. In the first paragraph, the author implies that

    A. David's issues are insolvable.

    B. David's parents are indifferent.

    C. David's counselor is naive.

    D. David's problems are typical.

48. Implicit in this passage is the belief

- **A.** that learning is developmental.
- **B.** that learning is predetermined.
- **C.** that learning is self-centered.
- **D.** that learning is mechanistic.

49. In the second paragraph, the author speaks of *necessary modifications*, meaning

- **A.** self-examining internal strife and external conflicts.
- **B.** reviewing personal motivations, ambitions and goals.
- **C.** making changes that are warranted.
- **D.** monitoring prescribed actions and outside force.

50. The author of this narrative would most likely concur with which one of the following statements?

- **A.** Radical change occurs exponentially.
- **B.** Self-defeating behavior is irreversible.
- **C.** Developmental needs are predetermined.
- **D.** Narrowing issues is reasonable.

Passage 3

Anne Frank: The Power of the Living Word

(1) The story of Anne Frank is the story of one family's struggle to survive one of the most unthinkable horrors of the twentieth century—the Holocaust. A Jewish family forced into hiding to escape Nazi persecution, the Franks are today remembered not because they were unique, but because young Anne kept a diary of her and her family's experiences. At the conclusion of the Second World War, her diary was found, published, and widely read throughout the world, making Anne one of the most renowned victims of the Holocaust. Her diary has been made into plays and movies, and—in many cases—is required reading in schools and universities throughout the world. The Frank family tragedy has become the living symbol for the triumph of the written word and courage over human despair and tragedy.

(2) Anne Frank was born in Frankfurt am Main in Germany in 1929. Soon afterward, in 1933, the anti-Jewish National Socialist Party led by Adolph Hitler came to power. Fortunately for Anne, her parents Otto and Edith had decided shortly after Anne's birth that there was no future for them in Germany, so they fled to the Netherlands, eventually settling in Amsterdam, Holland. There, Anne lived a relatively carefree childhood until she turned 11 years old;

however, in 1940, the Netherlands became occupied by Germany, and the protection that Holland provided for the Jewish people came to an abrupt end.

(3) Soon, Anne's life—as well as the lives of all Jewish families living under Nazi occupation—became increasingly restricted by Hitler's Jewish decrees. Beginning in 1942, Hitler ordered all Jews to report to so-called "work camps." Refusal to comply meant being sent to a prison camp. Having no choice, the majority of Jews complied and were shipped off to places where they were eventually tortured and killed.

(4) Sensing this fate, Anne's parents decided to escape Nazi persecution by going into hiding. Since fleeing the Netherlands was near impossible, the Frank family chose to hide in the attic of a building near Otto Frank's place of work in Amsterdam. With the aid and the ever-protecting vigilance of their friends, the Frank's extended family—Anne's parents, Anne, her older sister, a Jewish dentist, and another Jewish couple and their teenage son—lived inside a cramped second-story space for slightly more than two years, from July 9, 1942, to August 4, 1944.

(5) During these years, Anne wrote in a diary that had been given to her on her thirteenth birthday. Writing in Dutch, Anne described her fears of living in hiding; her awakening feelings for Peter (the teenager living with them); the conflicts of living in such closed quarters; and her aspirations of becoming a writer. In fact, she even rewrote some of her diary in the hopes of publishing her work after the war.

(6) Sadly, Anne would never live to see the worldwide acclaim of her published diary. After more than two years in hiding, a tip from a Dutch informer led the Gestapo, the Nazi police, to their hiding place. Arrested and deported, Anne and her family were transported to concentration or "death camps" where all but Otto Frank, Anne's father, perished. It is now known that Anne and her older sister, Margot, were sent to Auschwitz, but eventually died at the Bergen-Belsen camp of typhus in March, 1945.

(7) Fortunately, Miep Gies, one of the Frank family friends who cared for them during the hiding years, found Anne's diary and saved it. When Anne's father was released from the concentration camp, Miep Gies gave him Anne's diary, and—although at first reluctant—her father edited it for publication under the title *The Diary of Anne Frank*. Almost immediately, Anne's dream to become a world-renowned writer became reality. A testimony to the triumph of the human spirit during Hitler's oppressive regime, Anne's words show how one voice—one lone, distinct, vibrant voice—can record and influence our own perception of history.

51. After reading this passage, an individual might think

- **A.** that human beings are unforgiving.
- **B.** that individual differences are insurmountable.
- **C.** that human indifference is pervasive.
- **D.** that tenacious spirits endure.

52. More than likely, Otto Frank initially published an edited version of Anne's diary because

- **A.** he cherished her memory and did not want to reveal family secrets.
- **B.** he did not value writing and thought Anne had wasted her time.
- **C.** he loved writing, but felt Anne's thoughts were untrue and uninteresting.
- **D.** he didn't agree with the beliefs Anne expressed in her diary.

53. By escaping into hiding, the Frank family

- **A.** were able to continue working at Frank's factory.
- **B.** were able to live two more years in isolation.
- **C.** were able to enjoy the fruits of their labor.
- **D.** were able to prepare themselves for the inevitable.

54. Miep Gies can best be described as

- **A.** altruistic.
- **B.** solipsistic.
- **C.** narcissistic.
- **D.** recalcitrant.

55. The best phrase to describe the tone of this narrative is

- **A.** beleaguered cynicism.
- **B.** cautious optimism.
- **C.** divine inspiration.
- **D.** inspired revisionism.

Passage 4

An Unexpected Snowfall: The Teachable Moment

(1) During the middle of March, a funny thing happened in Georgia. It snowed. School was closed for a day while roads were cleared and transportation problems were solved. Snow in the middle of March in Georgia is unexpected. Thus, when students returned to school, they were doubly excited about their unexpected day off, and of course, for many, their first chance to see snow. Georgia teachers, especially in the elementary and middle school grades, responded to their students' enthusiasm by encouraging them to discuss their experiences with their classmates. Naturally, they were eager to do so.

(2) In one particular middle school classroom, a seventh-grade science teacher took it upon himself to structure an entire lesson around his students' first-time experience with snow. Taking his seventh graders outside, he found one flake of snow and placed it upon a thin piece of transparent plastic that had been chilled on top of the snow. The middle school youngsters then looked at the snowflake through a hand lens. They were amazed at what they saw.

(3) Expecting to see a simple nondescript blob, the seventh graders, instead, saw a delicate structure. When the snowflake melted, the science teacher told his students to place another snowflake on the thin sheet of chilled plastic and then describe this snowflake as well. To their amazement, they saw a different structure under their hand lens. The snowflake was similar in delicate design to their first viewing, but yet, totally different. Repeating this experiment several times, these middle school students soon realized that all snowflakes have six sides, but that no two snowflakes look alike.

(4) Following their observations, the seventh graders left the freezing cold of the Georgia outdoors and went back into the classroom. There, under the guidance of their middle school science teacher, they discussed their observation of snowflakes. They marveled at how different each snowflake they observed was and how this phenomenon is multiplied countless times wherever and whenever it snows.

(5) Their scientific discussion soon led to a conversation about how life in this central Georgia community had radically changed as a result of this sudden and unexpected snowfall. The youngsters shared stories of playing in the snow, of slipping and sliding everywhere, and of the difficulty many of their parents were having with stalled cars and hazardous roads. This tangent in the discussion took the class outside again. This time they did experiments to investigate why the city had spread sand on the streets and walkways after it snowed.

(6) In the end, what teacher and students learned is that scientific experiments, especially unexpected ones, make the best teaching moments. This middle school teacher took advantage of an unexpected event to teach his students scientific principles using the inquiry method. This act alone provided his students with both a positive experience and the

impetus to learn about science and its relationship to their daily lives. Indeed, this teacher took advantage of a teachable moment that will stay with his students for the rest of their lives.

56. According to the passage, one way in which this seventh-grade science teacher motivated his students is by

   A. following a prescribed lesson.
   B. engaging his students' interests.
   C. sharpening his students' study skills.
   D. increasing his students' workload.

57. As used in the fourth paragraph, the word *phenomenon* most nearly means

   A. occurrence.
   B. illusion.
   C. principle.
   D. opinion.

58. Which sentence best states the main idea of this passage?

   A. Teaching is often best when the learning is unexpected and unplanned.
   B. Teaching is often best when the learning is prescribed and deterministic.
   C. Teaching is a complex task that is more science than art.
   D. Teaching is best when the teacher takes students outside to learn**.**

59. Identify the relationship between the following two sentences in the fifth paragraph:

"Their scientific discussion soon led to a conversation about how life in this central Georgia community had radically changed as a result of this sudden and unexpected snowfall. The youngsters shared stories of playing in the snow, of slipping and sliding everywhere, and of the difficulty many of their parents were having with stalled cars and hazardous roads."

The second sentence

   A. contradicts the first.
   B. restates the first.
   C. supports the first.
   D. redirects the first.

60. For this passage, the author uses an overall organizational pattern that

   A. summarizes contrasting uses of teachable moments.
   B. contrasts teaching styles and instructional methodologies.
   C. outlines specific procedures for impromptu instruction.
   D. provides illustrations that support spontaneous instruction.

Diagnostic Test Answer Key

General Knowledge Diagnostic Test: English Language Skills

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

General Knowledge Diagnostic Test: Math Skills

21. C	28. C	35. A
22. C	29. B	36. C
23. D	30. D	37. D
24. B	31. B	38. D
25. B	32. A	39. B
26. A	33. D	40. C
27. A	34. C	

General Knowledge Diagnostic Test: Reading

41. A	48. A	55. B
42. C	49. C	56. B
43. A	50. D	57. A
44. C	51. D	58. A
45. D	52. A	59. C
46. A	53. B	60. D
47. D	54. A	

General Knowledge Diagnostic Test: Essay Explanation

In this section of the examination, you were asked to prepare a written assignment on one of two topics.

Topic 1

> A place that I would like to visit

Topic 2

> An invention that changed the world

You were asked to write a 300–600 word response that would be well written, organized, and defined. You were also informed that your writing would be graded holistically, taking into consideration both mechanics and organization.

What follows are examples of a weak and strong response to both prompts.

Topic 1—A Place That I Would Like to Visit

Weak Response

There are so many places that I would like to visit that I cannot even name them all. I like to travel and I have had the chance but I have not been too many exotic places. I have been to Washington, D.C. on a school trip in the seventh grade and there I saw many exciting things. I saw museums, statues, and even famous people. I remember that as our bus was driving past the White House we saw a limousine leaving the gate and I am sure that I saw President Bush wave. It was the first President Bush, not the second, and I am certain that I saw both him and his wife, Barbara, wave. As seventh graders, we were terribly excited and this made our trip to Washington even more special. I look forward to going again one day and of course to making many more wonderful trips across the world.

Strong Response

Of all the world's destinations, none is more desirable to me than Washington, D.C.— our nation's capital, long the home of the world's most powerful leaders and influential figures. There, amidst our nation's legacy of recorded and memorialized history, stand living, breathing governmental bodies that decide the fate and destiny of countless millions of individuals every year. And there, in the halls of the White House, Congress, and the Supreme Court, work the individuals with whom we trust our most sacred treasure—the lives of our fellow human beings. No other place on earth has such a mixture of old and new, of tradition and experimentation, of history and modernity.

Washington, D.C is our nation's capital and the seat of our nation's power. There, the President of the United States resides and governs. In the White House, the President lives with the First Family, and presides over both ritual and government with equal importance and magnitude. As president, this chief executive officer determines the direction of the course of world events for not only the term that he or she serves, but, often, for many years to come. This is why visiting Washington, D.C. is such a driving and powerful desire for me. I long to visit a place where great decisions are made daily. I long to see where our governmental leaders, particularly the president, live and work. I long to experience the wonderment of how they manage to get so much done in a place that seems, at first glance, so overwhelming.

Our nation's capital, as mentioned, is a place that is both historical and contemporary. It is not only the seat of great governmental power, but also the home to some of the world's most fascinating and intriguing museums and memorials, such as the Smithsonian, the Air and Space, and the Holocaust museums. The Smithsonian Museum is actually a number of buildings that house everything our nation considers to be precious and historical—from historical artifacts to television memorabilia. At the Air and Space Museum, visitors can get a firsthand glimpse at our nation's aviation history: everything from the Wright Brothers' first plane, the Kitty Hawk, to our nation's early space capsules. And at the Holocaust Museum, individuals from all walks of life can learn firsthand just what it was like to be a Jewish person caught in the throes of the Nazis' horrifying regime.

Finally, our nation's capital is the home to sophisticated and trend-setting modern elements as well. Those privileged to live in and near this bustling city can partake of its many cultural events, fine eateries, and exciting happenings. Cultural

events include original plays at the Arena Theatre, musical and dramatic events at the Kennedy Center, and numerous outdoor concerts. Dining options range from some of the country's most sophisticated restaurants (where famous politicians and entertainers can regularly be seen) to local eateries specializing in all sorts of ethnic cuisines. And special happenings include monthly events held on the Washington Mall (especially during the warmer months) where vendors and entertainers delight visitors and natives with their special talents and wares.

In conclusion, Washington, D.C. is the one place that I would love to return to year after year. It is one place on the face of the earth where richness never wears out its welcome. This is a living breathing entity of the old and the new, the powerful and the rich, the traditional and the experimental that makes for a continually fascinating and intriguing arena in which to live and thrive. I love visiting there. And who knows? Maybe, someday, I will call it home.

Topic 2—An Invention That Changed the World

Weak Response

Some discoveries change the face of the world because they bring to everyone a new invention that makes our lives better and more comfortable. Inventions like the phone, the computer, and the laptop have changed the way we live and work and made everyday living so dramatically different. One discovery, though, that comes to mind that has changed the world as we know it is the mass production of the powerful antibiotic, penicillin. This discovery might not seem as dramatic as the computer or the laptop, but, to be sure, it has changed the face of the globe. Penicillin has helped eliminate world disease in all type and fashion. No longer are people getting sick for no apparent reason other than they are catching all sorts of diseases because of poor sanitation. Penicillin made life easier for countless thousands of people and for that, we will be forever grateful.

Strong Response

Can you imagine life without penicillin? Can you imagine a life without a powerful drug used to treat infections caused by bacteria? For millions of Americans prior to the 1940s, life without penicillin was an everyday reality. Simply put, there was no available drug to treat serious diseases in human beings. Not until the discovery and widespread use of penicillin in the mid-1940s did a miracle drug play a significant role in changing the face of the world. For the first time, human beings had a chance to escape the ravages of serious and often fatal illnesses.

In 1928 a British scientist, Sir Alexander Fleming, discovered penicillin when he noticed mold growing in a lab dish containing common bacteria. Fleming noticed that the bacteria around the mold had died. Fleming made note of this discovery and a few years later, other British scientists capitalized on Fleming's work and writings and began their own experimentation. Soon, they had developed a small strain of penicillin and began using it on patients to treat deadly infections. What they soon discovered is that the patients would do well until they needed more penicillin and none was to be found. There and then, British scientists and physicians realized the power of this new miracle-inducing drug.

During the 1950s, researchers found ways to produce large quantities of penicillin. Soon, doctors had at their disposal a number of strains of penicillin that could be used to play a large role in treating such previously deadly diseases as pneumonia, rheumatic fever, scarlet fever, and other serious illnesses. The development of penicillin had a tremendous impact on medicine and encouraged research that led to the discovery of many other antibiotics. For their work, Fleming and his associates were awarded the Nobel Peace Prize in Medicine.

As with any medicine, though, there are often unanticipated side effects. Some people who take penicillin suffer allergic reactions. These reactions are usually minor, causing fever or rashes. Yet, for a few, life-threatening reactions involving shock and breathing difficulties may occur. And usually, patients allergic to one form of penicillin will likely react to all forms. Fortunately, such patients can more than likely be treated with antibiotics that are similar to penicillin and have been used since the 1960s.

Penicillin is known as the "wonder drug" of modern medicine. Until the discovery and widespread use of penicillin and similar antibiotics, people often died of bacterial illnesses. The number of deaths, though, caused by meningitis, pneumonia, tuberculosis, and scarlet fever changed dramatically after antibiotics became available. In addition, antibiotics are also used to treat infectious diseases in animals. Thus, the world is a much healthier and happier place to live since the discovery and use of penicillin. Indeed, it is difficult to imagine a life without this wondrous drug of modern medicine.

General Knowledge Diagnostic Test: English Language Skills Answers and Explanations

1. **B.** The question deals with conceptual and organizational skills, which fall under English Language Skills. Thus, the primary focus of the question is Competency 1: Identify logical order in a written passage. Sentences arranged in the following order—(2), (4), (3)—complete the paragraph's thought pattern. This is the most logical order of progression, allowing the reader to follow the author's train of thought from a general conclusion to logical supporting detail. Choices **A, C,** and **D** do not present the material in a logical fashion.

2. **B.** Sentence (6) is the sentence that is LEAST relevant to this paragraph. The sentence speaks about the city of Los Angeles, whereas the remainder of the paragraph speaks about America's West. There is no logical explanation for inserting information about the city of Los Angeles when the remainder of the paragraph speaks about the vastness of the America's western landscape and its land use for primarily farming and ranching.

3. **B.** The question deals with word choice skills, which fall under English Language Skills. Thus, the primary focus of the question is Competency 2: Choose the appropriate word or expression in context. In this sentence, the misused word is "*principle*." The word should read "*principal.*" The word *principle* means main idea. The word *principal* means the administrative leader of a school. The other words in the sentence, *accepted* and *board,* are used correctly.

4. **D.** The question deals with sentence structure skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify standard capitalization. No change is necessary. The word *doctor* is capitalized when referring to a specific doctor, as in *Doctor Leonard Pitts.* The word *English* is capitalized because it is referred to as a language. The word *spring* is not capitalized because the names of seasons—*spring, summer, winter,* and *fall*—are always written in lowercase, unless the reader is using it in a poetic form.

5. **C.** The question deals with sentence structure skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify standard capitalization. *Civil War* should be capitalized because it is the name of a specific event, place, or thing. In the remainder of the sentence, the word *author* is used correctly because there is no need to capitalize the word author before Margaret Mitchell's name. Finally, the word *South* is correct, because it is referring to a specific geographical region in an historical context.

6. **A.** The question deals with sentence structure skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify standard punctuation. The correct choice should read, "*by the textbook method; now it is. . . .*" A semicolon is needed between the two main clauses (Choice **A**). The remaining choices are grammatically incorrect and inappropriate in sentence construction.

7. **A.** The question deals with word choice skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 2: Recognize commonly confused or misused words or phrases. The word *alternate* should be substituted for the word *alternative. Alternate* means to take turns, whereas *alternative* means or implies a choice between two things. In the remainder of the sentence, the word *is* is appropriately used, referred to the singular noun *plan.* The word *affecting* is used appropriately as well. *Affect* is a verb meaning to have an "influence upon" and *effect* is a noun meaning "result."

8. **B.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify standard punctuation. A comma is needed following the introductory clause. The word *When* at **A** is correct and makes sense in the sentence. The possessive pronoun *their* at **C** is correct.

9. **A.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify the correct use of adjectives and adverbs. In this sentence, the word following the verb *felt* at **A** modifies the subject (a noun). The word *badly* is an adverb. It should not be used to modify a noun. The adjective *bad* should be used instead. The word *English* at **B** is a proper noun, so it should be capitalized. The title *dean* at **C** should not be capitalized. Titles are capitalized when they precede proper names, but as a rule are not capitalized when used alone.

10. **B.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify agreement between pronoun and antecedent. The word *between* at **B** is a preposition. The object of a preposition should be in the objective case. Change *I* to *me* to make the sentence grammatically correct. No comma is needed at **A.** The word *definitely* at **C** is spelled correctly.

11. **C.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify agreement between subject and verb. The word *I* at **C** is the subject of the verb *am* (which is understood) and, thus, should be in the subjective case. Change *me* to *I* to make the sentence grammatically correct. The pronoun *who* at **A** is correct because it is the subject of the subordinate clause it introduces. The adjective *much* at **B** is correct and makes sense in the sentence.

12. **A.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify agreement between pronoun and antecedent. The word *Each* is the singular antecedent of the pronoun at **A.** Use *her* instead of the plural pronoun *their* to refer to the singular antecedent *Each*. The word *what* at **B** is correct and makes sense in the sentence. The preposition *between* at **C** is correctly used to indicate a relationship involving two people. The preposition *among* is used when the relationship involves more than two people or things.

13. **D.** The question deals with word choice skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 2: Choose the appropriate word or expression in context. This sentence is correct as written. The preposition *Through* at **A** is spelled correctly and makes sense in the sentence. The comma at **B** following the introductory prepositional phrase is correct. The plural verb *show* at **C** is correct because the word *data* is a plural noun.

14. **B.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify standard verb forms. The past participle for the verb *to begin* is *begun*. Note that "should of" in **A** and **C** is an error for "should have."

15. **B.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify standard verb forms. The past perfect form *had made* is used to indicate an action took place before another action in the past occurred. In the sentence given there is no reference to a prior action. The simple past tense *made* is all that is needed here.

16. **C.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify agreement between pronoun and antecedent. Does *them* at **C** refer to *children* or *toys*? Change *them* to *the toys* to avoid ambiguity. The verb *were* at **A** is in agreement with the plural noun *toys* (the antecedent of the pronoun *that*). The adjective *good* at **B** is correct.

17. **A.** The question deals with word choice skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 2: Choose the appropriate word or expression in context. The word at **A** should be an adjective because it modifies the noun *reason*. The word *principle* is a noun. Change *principle* to *principal* to make the sentence grammatically correct. The word *that* at **B** is correct. It would be redundant to use *because* at **B** because the word *because* means *for the reason that*. The singular verb *has been* at **C** is in agreement with its singular subject *he*.

18. **C.** The question deals with word choice skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 2: Recognize diction and tone appropriate for a given audience. The most appropriate expression is the one that is formal, polite, and respectful. The other choices—**A, B,** and **D**—are inappropriate, impolite, and disrespectful.

19. **C.** The question deals with grammar, spelling, capitalization and punctuation skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 4: Identify standard punctuation. All punctuation in sentence **C** is correct. In sentences **A** and **B,** the word *customer's* is punctuated incorrectly. To form the possessive of a plural noun ending in *s*, put an apostrophe after the *s*. Sentence **B** also needs a comma following the introductory phrase that begins the sentence. In sentence **D,** the apostrophe in complaints' should be deleted.

20. A. The question deals with sentence structure skills, which fall under English Language Skills. Thus, the primary focus for the question is Competency 3: Recognize correct placement of modifiers. The modifiers in sentence **A** are placed correctly. The participial phrase *Driving along the highway* modifies *Paul,* the noun subject of the main clause of the sentence, and should be close to it. In choices **B** and **D,** *Driving along the highway* is separated from the noun *Paul,* resulting in ambiguity. Choice **C** is an example of a dangling participle because the participial phrase *Coming from the trunk* seems to modify the noun *Paul,* which does not make sense.

General Knowledge Diagnostic Test: Mathematics Answers and Explanations

21. C. Follow "<u>P</u>lease <u>E</u>xcuse <u>M</u>y <u>D</u>ear <u>A</u>unt <u>S</u>ally."

$-9(5) - 18 \div 3^2 =$

$-9(5) - 18 \div 9$ There are no parentheses, so do exponentiation first.

$-45 - 2$ Multiply and divide from left to right, next.

$-45 - 2 = -45 + -2 = -47$ Then subtract, yielding the answer in Choice **C**.

Choice **A** results if you work the problem in order from left to right without following the order of operations. Choice **B** results if you fail to follow the order of operations and make computational errors as well. Choice **D** results if you make a sign error in the computation of $-45 + -2$. This occurs if you use an incorrect sign rule for the sum of two negative numbers. The sum of two negative numbers is negative, not positive.

22. C. Three steps are needed to solve the problem:

Step 1. Find the cost for a 15 semester-credit-hour (s.c.h.) course load in 1965:

$\frac{\$5}{\text{s.c.h.}} \times 15$ s.c.h. = \$75 in 1965. (Hint: Quantities following the word "per" should be written in the denominator of a fraction.)

Step 2. Find the cost for a 15 semester-credit-hour (s.c.h.) course load in 2005:

$\frac{\$80}{\text{s.c.h.}} \times 15$ s.c.h. = \$1200 in 2005.

Step 3. Find the difference in cost between the two years:

$1200 - $75 = $1125, Choice **C.**

Choice **A** is the difference in tuition for one semester credit hour, not 15 semester credit hours. Choice **B** is the tuition for 15 semester credit hours in 2005, not the difference between the two years. Choice **D** is the sum of the two tuitions, not the difference.

23. D. The simplest way to work this problem is to compare the expressions by performing all the indicated operations:

Choice **A:** $3^3 \times 8^2 = 3 \times 3 \times 3 \times 8 \times 8 = 1{,}728$

Choice **B:** $2^6 \times 9 \times 3 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 9 \times 3 = 1{,}728$

Choice **C:** $32 \times 54 = 1{,}728$

Choice **D:** $9 \times 16 = 144$

Choice **D** is *not* equivalent to the other choices, so it is the correct response.

24. B. Work the problem in two parts as follows:

$\frac{54 \times 10^{12}}{6 \times 10^4} = \frac{54}{6} \times \frac{10^{12}}{10^4} = 9 \times 10^{12-4} = 9 \times 10^8$, Choice **B.**

In the first fraction, divide 54 by 6 to obtain 9. In the second fraction, you have two exponential expressions that have the same base. To perform the division, keep the same base and subtract the denominator exponent, 4, from the numerator exponent, 12, as shown. Choice **A** occurs if you subtract the exponents in the wrong order. Choice **C** occurs if you mistakenly divide the exponents instead of subtracting. Choice **D** occurs if you mistakenly divide the exponents instead of subtracting and you make a sign error.

25. B. To solve the problem, you must answer the question: 12 is x (%) of 150?

Method 1: Write an equation and solve it:

12 = x times 150 Hint: The word "of" is "times" when it occurs between two numbers.

12 = x150

For convenience, you should rewrite the expression on the right of the equation as 150x:

12 = 150x

You are solving for x, so divide both sides of the equation by 150, the coefficient of x:

$$\frac{12}{150} = \frac{150x}{150}$$

0.08 = x

Change 0.08 to a percent by moving the decimal point 2 places to the right and adding a percent sign:

x = 8%, Choice **B.**

Method 2: Set up a percent proportion and solve it:

$$\frac{x}{100} = \frac{12}{150}$$

Multiply 12 by 100 and then divide by 150:

$$x = \frac{12 \times 100}{150} = 8, \quad \frac{8}{100} = 8\%, \text{ Choice } \mathbf{B.}$$

Choices **A** and **D** result if you make a decimal point mistake. Choice **C** occurs if you analyze the problem incorrectly.

26. A. Substitute into the expression, being sure to enclose the substituted value in parentheses:

$x - y = (-2) - (-10) = -2 + 10 = 8$, Choice **A.**

Choice **B** occurs if you make a sign error. Choices **C** and **D** result if you deal with the subtraction incorrectly.

27. A. Check each choice to determine the correct response:

Checking Choice **A:** Find a common denominator of 63 and rewrite the fractions as equivalent fractions with denominators of 63:

$\frac{4}{7} = \frac{36}{63}$ and $\frac{5}{9} = \frac{35}{63}$, so $\frac{4}{7}$ is greater than $\frac{5}{9}$ because $\frac{36}{63}$ is greater than $\frac{35}{63}$. Therefore, Choice **A** is true.

In a test situation, you could stop without checking the other choices since you have obtained the correct answer. If you are running short of time, you should go on to the next question. If not, you may want to take the time to check the remaining choices to make doubly sure that your answer choice is correct.

Checking the remaining choices, you would find:

Choice **B** is false because 0.5 = 0.50 which is greater than 0.35.

Choice **C** is false because 5% of 60 = $0.05 \times 60 = 3$, which is not less than 10% of 20 = 2.

Choice **D** is false, because –18 lies to the left of –5 on the number line, which means $-18 < -5$.

28. C. To approximate the value of $\sqrt{41}$, find two consecutive integers such that the square of the first integer is less than 41 and the square of the second integer is greater than 41. Since Since 6^2 is $36 < 41$ and 7^2 is $49 > 41$, the approximate value of $\sqrt{41}$ is between 6 and 7, Choice **C**. Choice **A** results if you mistakenly use the length of the legs of the right triangle to approximate $\sqrt{41}$. Choice **B** results if you underestimate $\sqrt{41}$. Choice **D** results if you mistakenly use the squares of the consecutive integers 6 and 7 to estimate $\sqrt{41}$.

29. B. A number written in scientific notation is written as a product of two numbers: a number that is greater than or equal to 1, but less than 10, and a power of 10. The number 93,000,000 is greater than 10, so the decimal point must be moved to the left to make the first factor greater than or equal to 1 but less than 10. If the decimal point is moved 7 places to the left, the first factor will be 9.3.

$93,000,000 = 9.3000000 \times 10^? = 9.3 \times 10^?$

Since the decimal point was moved to the left 7 places, the exponent for the power of 10 is 7. The exponent needs to be positive 7 so that when you convert back to the original number, the value is the same. The number 93,000,000 is written as 9.3×10^7 in scientific notation, Choice **B.** You can check your answer by quickly performing the indicated multiplication.

$9.3 \times 10^7 = 9.3 \times 10,000,000 = 93,000,000.$ ✓

Choice **A** results if you incorrectly count the number of decimal places moved. Choices **C** and **D** result if you incorrectly use a negative exponent on the power of 10. Negative exponents are used in scientific notation when you are writing very small numbers that are between 0 and 1. For example, 0.00000005 is 5×10^{-8} in scientific notation.

30. D. Write an equation that can be used to find the total annual cost of belonging to the fitness club and bringing pool guests. Let n equal the number of times Donna brought a guest to the club pool. If it cost $5 every time a member brings a guest to the pool, then $5n$ represents the guest pool charges for the year. The annual membership charge is $300. The total annual cost ($385) is the annual fee ($300) plus the guest pool charges ($5n$). Write this statement as an equation and solve it, omitting the units for convenience:

$385 = 300 + 5n$

$385 - 300 = 300 + 5n - 300$ Subtract 300 from each side.

$85 = 5n$

$\dfrac{85}{5} = \dfrac{5n}{5}$ Divide each side by 5.

$17 = n$, Choice **D.**

Donna brought a guest to the club pool 17 times last year.

Choice **A** results if you incorrectly figure out the problem by dividing 385 by 5. Choice **B** results if you incorrectly figure out the problem by dividing 300 by 5. Choice **C** results if you make a mistake when dividing 85 by 5.

31. B. First sketch a diagram to illustrate the problem:
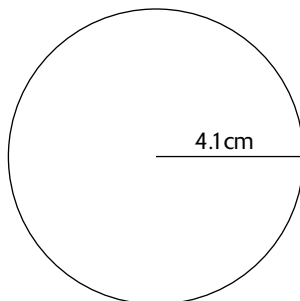
The formula for the area of a circle is $A = \pi r^2$. (You can look up the formula on the mathematics reference sheet provided.) To decide which answer choice is reasonable, estimate the area of the piece of glass. Round the radius to 4 centimeters and plug this value into the formula.

$$A = \pi r^2$$

$$A = 3.14(4 \text{ cm})^2$$

$$A = 3.14(16 \text{ cm}^2)$$

$$A = 50.24 \text{ cm}^2$$

The area of the circle is approximately 50.24 cm^2, so 50 cm^2 (Choice **B**) is a reasonable estimate. Choices **A** and **D** result if you use the wrong formula for the area of a circle. Choice **C** results if you mistakenly multiply 3.14 times 4 before squaring when calculating the area.

32. A. First sketch a diagram to illustrate the problem. Of course, you can't draw it exactly to scale, but the sketch will help you "see" the situation:
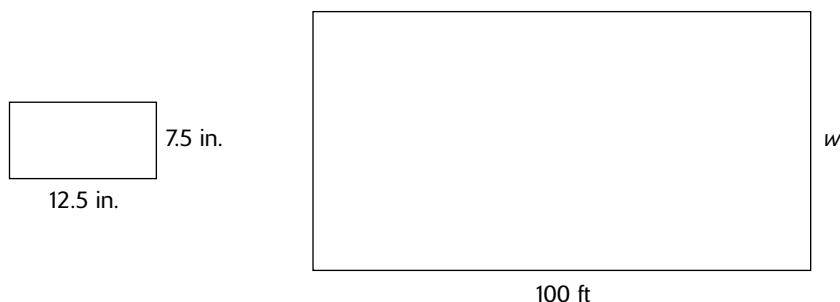
Let w = the width of the front of the actual office building. The fronts of the model and building can be represented with two rectangles. The rectangles are similar figures, so the measurements of their corresponding sides are proportional. That is,

$$\frac{\text{length of the model}}{\text{actual length of the building}} = \frac{\text{width of the model}}{\text{actual width of the building}}$$

Plug in the values from your diagram. Be sure to check to make sure the units match up correctly.

$$\frac{12.5 \text{ in.}}{100 \text{ ft}} = \frac{7.5 \text{ in.}}{w \,(\text{ft})} \quad \text{Check: Both ratios have inches in the numerators and feet in the denominators.}$$

For convenience, omit the units while you solve the proportion:

$$\frac{12.5}{100} = \frac{7.5}{w}$$

Multiply 100 by 7.5, then divide by 12:

$$\frac{100 \times 7.5}{12.5} = 60 \text{ feet}$$

The width of the front of the actual office building will be 60 feet, Choice **A.**

You should eliminate choices **C** and **D** right away because these answers are not reasonable. The width of the model is shorter than its length, so the width of the actual building should be shorter than its length. Choice **B** results if you make a computation error when solving the proportion.

33. D. To determine which ordered pair satisfies the system, you will need to find the ordered pair that makes *both* equations true. Check each ordered pair by substituting the x and y values into the two equations, being careful to enclose the substituted value in parentheses.

Checking **A:** $3x + y = 3(-1) + (-5) = -3 + -5 = -8 \neq 2$. Since $(-1,-5)$ doesn't work in the first equation, you don't have to try it in the second equation. Eliminate **A.**

Checking **B:** $3x + y = 3(1) + (-5) = 3 + -5 = -2 \neq 2$. Since $(1,-5)$ doesn't work in the first equation, you don't have to try it in the second equation. Eliminate **B.**

Checking **C:** $3x + y = 3(1) + (5) = 3 + 5 = 8 - 2$. Since (1,5) doesn't work in the first equation, you don't have to try it in the second equation. Eliminate **C.**

By elimination, you know that Choice **D** is the correct response. You can check it to convince yourself.

Checking **D:** $3x + y = 3(-1) + (5) = -3 + 5 = 2$ ✓; $x + 2y = (-1) + 2(5) = -1 + 10 = 9$ ✓.

34. C. First sketch a diagram to illustrate the problem:
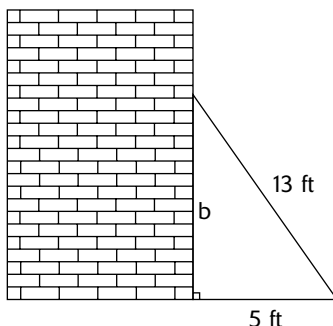
Since the piece of lumber and the wall of the building form a right triangle, use the Pythagorean Theorem to find the length of the missing side. Let b represent the distance from the base of the wall to the top of the piece of lumber. This distance is the length of the missing leg of the right triangle. The length (13 feet) of the piece of lumber is the length of the hypotenuse, c, of the right triangle. The length of the known leg, a, of the triangle is 5 feet. Substitute these values into the Pythagorean Theorem:

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

$5^2 + b^2 = 13^2$

$25 + b^2 = 169$

$25 + b^2 - 25 = 169 - 25$ Subtract 25 from both sides.

$b^2 = 144$

$\sqrt{b^2} = \sqrt{144}$ Take the square root of both sides.

$b = 12$ feet, Choice **C.**

The piece of lumber reaches 12 feet up the wall. Choice **A** results if you mistakenly decide to solve the problem by adding the lengths of the hypotenuse and known leg to find the length of the missing leg. Choice **B** results if you make a computation error. Choice **D** results if you mistakenly decide to solve the problem by finding the difference between the lengths of the hypotenuse and the known leg to find the length of the missing leg.

35. A. The outcome of the first spin has no effect on the outcome of the second spin. Therefore, this is a compound event made up of two independent events. To find the probability of spinning yellow on the first spin and blue on the second spin, multiply the probabilities of these two events: P(yellow) · P(blue).

First, calculate the probability of spinning yellow on the first spin. There are 3 yellow sections on the spinner, out of a total of 10 sections: P(yellow) = $\frac{3}{10}$.

There are 2 blue sections on the spinner, out of a total of 10 sections: P(blue) = $\frac{2}{10} = \frac{1}{5}$.

To find the probability of spinning yellow on the first spin and blue on the second spin, multiply the probabilities:

P(yellow) · P(blue) = $\frac{3}{10} \cdot \frac{1}{5} = \frac{3}{50}$, Choice **A.**

Choice **B** results if you multiply the two probabilities incorrectly. Choice **C** is the probability of spinning a yellow only. Choice **D** is the probability of spinning a blue only.

36. C. Check each statement.

Checking **A:** False. Rectangles and squares are special parallelograms in which all angles are 90°. This is *not* true of all parallelograms.

Checking **B:** False. Squares and rhombuses are special parallelograms in which all sides are congruent. This is *not* true of all parallelograms.

Checking **C:** True. Parallelograms are quadrilaterals in which opposite sides are parallel. This is true of all parallelograms.

Checking **D:** False. Squares and rhombuses are special parallelograms in which the diagonals are perpendicular to each other. This is *not* true of all parallelograms.

37. D. A quick way to work this problem is to check the answer choices—a good test-taking strategy for multiple-choice math tests.

Checking **A:** $\dfrac{\text{sum of 4 test grades}}{4} = \dfrac{87 + 91 + 83 + 90}{4} = \dfrac{351}{4} = 87.75 < 90$.

Checking **B:** $\dfrac{\text{sum of 4 test grades}}{4} = \dfrac{87 + 91 + 83 + 95}{4} = \dfrac{356}{4} = 89 < 90$.

Checking **C:** $\dfrac{\text{sum of the test grades}}{4} = \dfrac{87 + 91 + 83 + 96}{4} = \dfrac{357}{4} = 89.25 < 90$.

Checking **D:** $\dfrac{\text{sum of 4 test grades}}{4} = \dfrac{87 + 91 + 83 + 99}{4} = \dfrac{360}{4} = 90$, correct.

38. D. From the pie chart, you can see that 37.5 percent of the monthly salary is budgeted for rent. To answer the question, you must find 37.5 percent of $2,800.

Method 1: Change 37.5% to a decimal fraction and multiply:

37.5% of $2,800 = 0.375 × $2,800 = $1,050, Choice **D.**

Method 2: Set up a percent proportion and solve it:

$\dfrac{37.5}{100} = \dfrac{x}{2,800}$

Multiply 37.5 times 2,800, then divide by 100:

$\dfrac{37.5 \times 2,800}{100} = \$1,050$, Choice **D.**

Choice **A** results if you make a calculation error. Choice **B** results if you solve the problem incorrectly by finding 12.5 percent of $2,800. Choice **C** results if you solve the problem incorrectly by finding 25 percent of $2,800.

39. B. In an ordered set of numbers, the median is the middle number if there is a middle number; otherwise, the median is the arithmetic average of the two middle numbers. First, put the running times in order from smallest to largest:

21 min., 21 min., 21 min., 22 min., 24 min., 25 min., 27 min.

Since 22 minutes is the middle number, it is the median running time (Choice **B**). Choice **A** is the mode running time. Choice **C** is the mean running time. Choice **D** results if you forget to put the running times in order first.

40. C. Use the Fundamental Counting Principle to work this problem. First, decide how many tasks are involved. Richard has two tasks to perform. His first task is to choose a sandwich. After he completes that task, his second task is to select a drink. The number of ways the second task can happen does not depend on the outcome of the first task. To find the possible combinations for the two tasks, multiply the number of ways the first task can occur by the number of ways the second task can occur: (number of ways Richard can select a sandwich) · (number of ways Richard can select a drink) = 3 · 2 = 6 ways, Choice **C.** Richard can select 6 different combinations of sandwiches and drinks for lunch. Choices **A** and **D** result if you analyze the problem incorrectly. Choice **B** results if you add the number of ways each task can occur, instead of multiplying.

General Knowledge Diagnostic Test: Reading Skills Answers and Explanations

41. A. The main idea of this passage is that Los Angeles *is a thriving metropolitan community*, rich in business, cultural, and recreational venues to explore and enjoy. Choices **B** and **C** are certainly correct but are not the main idea of this passage. Choice **D** is a vague and contradictory statement that has no relation to the paragraph's central narrative or main idea.

42. C. In the second paragraph, the author is telling the reader about Los Angeles' many cultural and recreational venues. Choices **A** and **B** are only briefly discussed in the second paragraph, and Choice **D** is not mentioned at all.

43. A. The implication of this passage is that the city of Los Angeles and its surrounding community is experiencing the consequences of urban sprawl, which occurs when a multitude of individuals in a specific region begin to move to outlying areas. Choice **B** is contradictory to what the passage states; the amount of affordable homes is on the decrease. There is no mention of Choice **C** or Choice **D** in this passage.

44. C. The author's tone is *implicitly realistic*, meaning the author matter-of-factly states the obvious and then underscores both the positives and negatives. Choices **A, B,** and **C** are not relevant to this passage. The author writes enthusiastically about the prospects of living in and around Los Angeles and is never negative or cynical in her writing.

45. D. In the first paragraph, the word *mecca* means a *desired destination*. Choices **A, B,** and **C** are inappropriate definitions.

46. A. The *simple token system* is a method that fits within the larger context of *behaviorism*. Behaviorists believe that individuals learn through a system of rewards and punishments. Choice **B** is incorrect because *humanism* is the learning philosophy in which one treats the whole individual instead of isolated events in their behavior. Choice **C** is incorrect because *constructivism* is the theory that individuals learn to construct their own reality from a given set of constructs and circumstances. And Choice **D** is incorrect because *essentialism* is the teaching philosophy that says all learning should be based on what is essential or basic for all students to know.

47. D. In the first paragraph, the author clearly implies that while David's problems are certainly exasperating, they are indeed typical. Choice **A** is incorrect because at no time does the author state that David's problems are insolvable. Choice **B** is incorrect because the author implies that David's parents are concerned and loving. And Choice **C** is incorrect because David's elementary counselor's suggestions were shown to be practical and effective in solving David's problem and modifying his behavior.

48. A. Implicit in this passage is the belief that learning (*all* learning, whether it is the ABCs, or correct behavor) is *developmental*. Although the author writes about a token system of reinforcement for correcting inappropriate behavior, the author's implied message is that all learning needs to be appropriate to the individual and compassionately enforced. Choices **B, C,** and **D** are incorrect because at no time does the author underline that learning is predetermined, self-centered, or mechanistic.

49. C. In the second paragraph, the phrase *necessary modifications* means *making changes that are warranted*. Choice **B** is incorrect because the author makes no mention of anyone's reviewing young David's personal motivations, ambitions, or goals. Choice **A** is incorrect because again, the author makes no mention of anyone imploring David or his parents to *self-examine internal strife and external conflicts* surrounding David's inappropriate behavior. Finally, Choice **D** is incorrect because *necessary modifications* mean more than monitoring prescribed actions and outside forces. It means taking action to change the observed behavior.

50. D. The author of this narrative would most likely concur that when dealing with behavior problems, *narrowing issues is reasonable*. Choice **A** is incorrect because the narrative speaks of gradual, not radical change. Choice **B** is incorrect because the narrative does not speak about the nature of self-defeating behaviors. Choice **C** is incorrect because the narrative does not speak of developmental needs as predetermined needs.

51. D. After reading this passage, the phrase *an individual might think that tenacious spirits endure* is the correct choice. The story of the Frank family, with Anne's diary as the centerpiece, is truly the story of individual will and the human spirit triumphing over unspeakable atrocities and horror. Choices **A, B,** and **C** are worthy of consideration but do not accurately reflect the tenor and tone of this passage.

52. A. As implied in this passage, Otto Frank more than likely initially published an edited version of Anne's diary because he cherished her memory and did not want to reveal family secrets. Choices **B, C,** and **D** are incorrect because at no time does the narrative imply that Otto Frank did not value Anne, her writing, or her beliefs. After all, he knew Anne was writing in her diary and that she wanted to share her thoughts with the world at the conclusion of the war.

53. B. By escaping into hiding, the Frank family *members were able to live two more years in isolation*. The Franks knew very well that the days of Jewish people under Hitler's regime were numbered and that any moments they had together were to be treasured. They went into hiding—with a few friends—to find a respite from the drumbeat of war and persecution just outside their door. Choice **A** is incorrect because the Franks were unable to work while they hid in the attic. Choice **C** is incorrect because they had to rely on the kindness of their protectors for daily sustenance. And Choice **D** is incorrect because they had no possible way of preparing themselves for the unspeakable horror that awaited them upon their capture.

54. A. As implied in this passage, Miep Gies can best be described as *altruistic*. She was selfless in her devotion to others as she protected the Frank family at great personal cost. Choice **B** is incorrect because *solipsistic* means to be concerned with only one's own affairs. Choice **C** is incorrect because *narcissistic* means to be deeply in love with oneself. And Choice **D** is incorrect because *recalcitrant* means to be reluctant.

55. B. The best phrase to describe the tone of this narrative is *cautious optimism*. The narrative readily acknowledges the cruelties and horrors of war and unspeakable tragedies. Yet, the narrative also shows how a single diary can be a source of inspiration to countless individuals who will long remember the atrocities of Hitler's bloody regime. Choices **A, C,** and **D** are inappropriate for the tone and tenor of this piece.

56. B. According to the passage, the one way in which this seventh-grade science teacher motivated his students is by *engaging his students' interests*. Using a teachable moment, the teacher capitalized on the fact that his seventh graders had never seen snow before and then proceeded to create a lesson from the snow on the ground outside their classroom door. Choices **A, B,** and **C** are incorrect because these activities were not mentioned in the narrative as techniques to engage student learning.

57. A. As used in the fourth paragraph, the word *phenomenon* most nearly means an *occurrence*. Choices **B, C,** and **D** are inappropriate definitions for the word *phenomenon*.

58. A. *Teaching is often best when learning is unexpected and unplanned* is the sentence that best states the main idea of this passage. The value of the teachable moment is the central theme of this descriptive narrative about teaching seventh-grade science on a March day in central Georgia. Choices **B** and **C** are incorrect because they represent the opposite conclusion of this paragraph's main idea that teaching is at its best when it is spontaneous. Finally, Choice **D,** that teaching is best when students go outside to learn, represents a single idea of this paragraph and not the main idea.

59. C. In the fifth paragraph, the *second sentence supports the first sentence*. The second sentence adds more detail to the first sentence, thus clarifying the actions of the class lesson in greater detail. Choices **A, B,** and **C** are simply incorrect.

60. D. For this passage, the author uses an overall organizational pattern that *provides illustrations that support spontaneous instruction*. The author clearly provides vivid examples of classroom instruction to support the central thesis that teaching is best when it is spontaneous. Choices **A, B,** and **C** are inappropriate choices because they do not nearly approximate the organizational pattern of this particular narrative. In this passage, there is no comparison of teaching styles or delineation of specific procedures to follow to implement impromptu instruction. There is simply a strong narrative outlining two examples of teachable moments used effectively.