Prepare to show colleges what you know, and what you know you can do. Find everything in this booklet and more at www.collegeboard.com/subjecttests.
Prepare for the SAT Subject Tests™ with Help from the Test Maker

The Official Study Guide for all SAT Subject Tests™

The College Board—maker of the SAT Subject Tests—is the only source of official practice tests.

- 20 previously administered SAT Subject Tests in all 16 subjects
- Sample questions with detailed answer explanations
- Two audio CDs for all 6 Language with Listening Tests
- Detailed descriptions of every Subject Test
- Test-taking approaches from the test maker

Order today! store.collegeboard.com
The College Board:

Connecting Students to College Success

The College Board is a not-for-profit membership association whose mission is to connect students to college success and opportunity. Founded in 1900, the association is composed of more than 5,400 schools, colleges, universities, and other educational organizations. Each year, the College Board serves seven million students and their parents, 23,000 high schools, and 3,500 colleges through major programs and services in college admissions, guidance, assessment, financial aid, enrollment, and teaching and learning. Among its best-known programs are the SAT®, the PSAT/NMSQT®, and the Advanced Placement Program® (AP®). The College Board is committed to the principles of excellence and equity, and that commitment is embodied in all of its programs, services, activities, and concerns.

For further information, visit www.collegeboard.com.

Contents

About the SAT Subject Tests™ ...........................................4
Literature .............................................................................6
United States History ............................................................10
World History ......................................................................14
Mathematics Level 1 and Level 2 .......................................17
Biology E/M ........................................................................23
Chemistry ...........................................................................28
Physics ...............................................................................33
Chinese with Listening .....................................................39
French and French with Listening ....................................44
German and German with Listening ................................51
Modern Hebrew .................................................................56
Italian ..................................................................................59
Japanese with Listening ....................................................62
Korean with Listening ........................................................66
Latin......................................................................................70
Spanish and Spanish with Listening ................................73

Additional Information

SAT Subject Tests Development Committees ..................78
Test Dates ............................................................................ Back Cover

© 2008 The College Board. All rights reserved. College Board, Advanced Placement Program, AP, SAT, and the acorn logo are registered trademarks of the College Board.achieve more, connect to college success, SAT Reasoning Test, SAT Subject Tests, The Official SAT Subject Tests in U.S. and World History Study Guide, The Official SAT Subject Tests in Mathematics Levels 1 & 2 Study Guide, and The Official Study Guide for all SAT Subject Tests are trademarks owned by the College Board. PSAT/NMSQT is a registered trademark of the College Board and National Merit Scholarship Corporation. All other products and services may be trademarks of their respective owners. Visit the College Board on the Web: www.collegeboard.com.
About the SAT Subject Tests™

General Information
SAT Subject Tests™ are one-hour multiple-choice tests that measure how much you know about a particular academic subject and how well you can apply that knowledge.

SAT Subject Tests fall into five subject areas: English, history, mathematics, sciences, and languages. The tests help colleges compare the academic achievement of students from different schools where course preparation and academic backgrounds may vary widely.

Many colleges require or recommend one or more SAT Subject Tests for admission or placement. Even if the tests are not required by colleges to which you’re applying, your SAT Subject Test results can show more about you as a student and how competent you are in academic areas.

How Colleges Use SAT Subject Test Scores
Colleges use SAT Subject Test scores, in combination with other information (your high school record, scores from other tests, teacher recommendations, etc.), as a dependable measure of your academic background and achievement and as a good predictor of your future performance.

The scores help colleges to:

- Determine how well prepared you are for different programs
- Place you in freshman and higher-level courses
- Advise you on course selection

Which SAT Subject Tests to Take
To find out if the colleges in which you are interested require or recommend SAT Subject Tests, you should:

- Contact the colleges directly
- Review college catalogs
- Check the College Board’s College Handbook
- Use the online college search at www.collegeboard.com

When to Take SAT Subject Tests
- Read the test descriptions in this book. See how much preparation is recommended and when the tests are offered.
- Ask your teacher or counselor for advice.
- Take tests such as United States History, Biology E/M, Chemistry, or Physics as soon as possible after you complete the course, while the material is still fresh in your mind.
- You’ll do better on other tests like languages after at least two years of study.

How to Register
All the information you need to register and report scores to colleges is available online at www.collegeboard.com/sat and in the SAT Registration Booklet available in your school counselor’s office.

How to Prepare
This booklet provides the following information for each SAT Subject Test:

- Purpose
- Format
- Recommended preparation
- Test directions
- Score reporting
- Sample questions and answers

Know What to Expect
Use the information in this booklet and on www.collegeboard.com to help you:

- Know what to expect on test day. See www.collegeboard.com/subjecttests for details.
- Know what to expect on your tests. Study the descriptions of the tests, directions, and sample questions in this book. For Listening Tests, ask your counselor for a copy of the practice audio CD that was sent to your school.
- Become familiar with the test directions. Some tests, such as the Chemistry Subject Test, may have specialized directions. You will need to become familiar with the question formats before you take the test, so you’re not surprised or confused on test day.
- Know how the tests are scored. You get one point for each correct answer and lose a fraction of a point for each incorrect answer. Omitted answers are not counted either way.
Practice

- You can take official practice tests and review test-taking approaches with *The Official Study Guide for all SAT Subject Tests™*.
- If you plan to take SAT Subject Tests in Mathematics or History, you will find practice tests with explanations of the answers to the questions in *The Official SAT Subject Tests in Mathematics Levels 1 & 2 Study Guide™* and *The Official SAT Subject Tests in U.S. and World History Study Guide™*.

Taking the Tests

Test-Taking Approaches

- **Answer the easy questions first.** Mark only one answer for each question.
- **Pace yourself.** Answer the questions you know first and come back later to those you didn’t know.
- **Guess smart.** If you can rule out one or more answers as wrong, your chances of guessing correctly among the remaining choices improve.
- **Omit questions only when you have no idea how to answer them.**
- **Use your test book for scratch work.** Transfer your answers to your answer sheet. You will receive credit ONLY for what is written on your answer sheet.
- **Mark your answer in the correct column.** The answer sheet has five circles for each question. Some questions, though, have only three or four possible answers.

Erasing Answers

If you need to erase an answer, erase it as completely as possible. **IMPORTANT NOTE:** If you start a test and decide that you are not ready for it, you should cancel your scores. Do not erase all your answers. You must complete a cancellation form.

Canceling Scores

If you want to cancel your scores, you must cancel scores for ALL SAT Subject Tests you take at an administration unless your equipment malfunctions (explained later on this page).

Mathematics Level 1 or Level 2

- **Bring an acceptable calculator to the test center.** See page 18 for more information.
- **Make sure your calculator is in good working order.** Insert new batteries the day before the test. You may bring additional batteries and a backup calculator to the test center. Test center staff will not have batteries or calculators for your use.
- **You may not share a calculator with another test-taker.**
- **If your calculator malfunctions:**
  - Raise your hand and tell the test supervisor.
  - Switch to backup equipment, if you have it, and continue to test.
  - You may cancel your score on the mathematics test if you do not have backup equipment. Scores for other SAT Subject Tests you take that day will not be canceled.

Language Tests with Listening

- **Bring an acceptable CD player to the test center.** Your CD player MUST be:
  - Equipped with earphones
  - Portable (handheld)
  - Battery operated
- **Your CD player should have this icon.**
- **You are not allowed to use a CD player with recording or duplicating capabilities.**
- **Make sure your CD player is in good working order.** Insert new batteries the day before the test. You may bring additional batteries and a backup player to the test center. Test center staff will not have batteries, CD players, or earphones for your use.
- **You may not share a CD player with another test-taker.**
- **If the volume on your CD player disturbs other test-takers,** the test center supervisor may ask you to move to another seat.
- **If your CD player malfunctions:**
  - Raise your hand and tell the test supervisor.
  - Switch to backup equipment, if you have it, and continue to test.
  - You may cancel your score on the listening test if you do not have backup equipment. Scores for other SAT Subject Tests you take that day will not be canceled.
- **If you encounter problems with your CD,** such as occasional skipping, try to work through the problem and keep testing if possible. If necessary, raise your hand and ask the supervisor for a replacement CD. If a replacement is not available, a makeup test will be arranged.

After the Tests

Most, but not all, scores will be reported online several weeks after the test date. Your score report will also be mailed to you and delivered to the high school, colleges, universities, and scholarship programs you indicated when you registered or when you sent additional scores.


**Literature**

**One-hour subject test**

**Purpose**
- Measure interpretive skills necessary to read poetry and prose from different periods and cultures

**Format**
- About 60 multiple-choice questions
- 6 to 8 reading selections followed by sets of 4 to 12 questions
- Selections from works originally written in English from the Renaissance to the present
- Offered at all administrations except March

**Content**

Questions may cover:
- Overall meaning, including effect and theme
- Form, including structure, genre, and organization
- Use of language, including word choice, imagery, and metaphor
- Meanings and connotations of specific words in context
- Narrative voice, including tone and attitude
- Characterization in narrative and dramatic selections

**Recommended Preparation**
- Close, critical reading in English and American literature from a variety of historical periods and genres
- Reading of complete novels and plays, not just excerpts
- Working knowledge of basic literary terminology, such as speaker, tone, image, irony, alliteration, stanza
- Three or four years of literary study at the college-preparatory level
- Independent, critical reading of poetry, prose, and drama
- No suggested reading list

**Score**
- Total score: 200–800 scale

---

**CONTENT**

<table>
<thead>
<tr>
<th>Source of Questions</th>
<th>Approximate % of Test*</th>
</tr>
</thead>
<tbody>
<tr>
<td>English literature</td>
<td>40–50</td>
</tr>
<tr>
<td>American literature</td>
<td>40–50</td>
</tr>
<tr>
<td>Other literature</td>
<td>0–10</td>
</tr>
</tbody>
</table>

**Chronology**
- Renaissance and 17th century: 30
- 18th and 19th centuries: 30
- 20th century: 40

**Genre**
- Poetry: 40–50
- Prose: 40–50
- Drama and other: 0–10

*The distribution of passages may vary in different versions of the test. The chart above indicates typical or average content.

---

**Sample Questions**

Questions on the Literature Subject Test are presented as sets of questions about reading selections. The directions that follow are identical to those in the test. All questions on the test are multiple-choice questions in which you must choose the **BEST** response from the five choices offered. For these sample materials and for the actual test, the date printed at the end of each passage or poem is the original publication date or, in some cases, the estimated date of composition.

**Directions:** This test consists of selections from literary works and questions on their content, form, and style. After reading each passage or poem, choose the best answer to each question and fill in the corresponding circle on the answer sheet.

**Note:** Pay particular attention to the requirement of questions that contain the words NOT, LEAST, or EXCEPT.

**Questions 1-4.** Read the following passage carefully before you choose your answers.

By the time the man with the camera had cut across our neighbor’s yard, the twins were out of the trees swingin low and Granny was onto the steps, the screen door bammin soft and scratchy against her palms.

“We thought we’d get a shot or two of the house and everything and then . . .”

“Good mornin,” Granny cut him off. And smiled that smile.

“Good mornin,” he said, head all down the way Bingo does when you yell at him about the bones on the kitchen floor. “Nice place you got here, aunty. We thought we’d take a . . .”
“Did you?” said Granny with her eyebrows. Cathy pulled up her socks and giggled.

“Nice things here,” said the man buzzin his camera over the yard. The pecan barrels, the sled, me and Cathy, the flowers, the painted stones along the driveway, the trees, the twins, the toolshed.

“I don’t know about the thing, the it, and the stuff,” said Granny still talkin with her eyebrows. “Just people here is what I tend to consider.”

Camera man stopped buzzin. Cathy giggled into her collar.

“Mornin, ladies,” a new man said. He had come up behind us when we weren’t lookin. “And gents,” discoverin the twins givin him a nasty look. “We’re filmin for the county,” he said with a smile. “Mind if we shoot a bit around here?”

“I do indeed,” said Granny with no smile. Smilin man was smiling up a storm. So was Cathy. But he didn’t seem to have another word to say, so he and the camera man backed on out the yard, but you could hear the camera buzzin still.

“Suppose you just shut that machine off,” said Granny real low through her teeth and took a step down off the porch and then another.

“Now, aunty,” Camera said pointin the thing straight at her.

“Your mama and I are not related.”

Questions 5-9. Read the following excerpt from a poem carefully before you choose your answers.

One summer evening (led by her)1 I found
A little boat tied to a willow tree
Within a rocky cave, its usual home.

Straight I unloosed her chain, and stepping in
Pushed from the shore. It was an act of stealth
And troubled pleasure, nor without the voice
Of mountain-echoes did my boat move on;
Leaving behind her still, on either side,
Small circles glittering idly in the moon,
Until they melted all into one track
Of sparkling light. But now, like one who rows,
Proud of his skill, to reach a chosen point
With an unswerving line, I fixed my view
Upon the summit of a craggy ridge,

The horizon’s utmost boundary; for above
Was nothing but the stars and the grey sky.
She was an elfin pinnace; 2 lustily
I dipped my oars into the silent lake,
And, as I rose upon the stroke, my boat
Went heaving through the water like a swan;
When, from behind that craggy steep till then
The horizon’s bound, a huge peak, black and huge,
As if with voluntary power instinct
Upreared its head. I struck and struck again,
And growing still in stature the grim shape
Towered up between me and the stars, and still,
For so it seemed, with purpose of its own
And measured motion like a living thing,
Strode after me. With trembling oars I turned,
And through the silent water stole my way
Back to the covert of the willow tree;
There in her mooring-place I left my bark, —
And through the meadows homeward went, in grave
And serious mood; but after I had seen
That spectacle, for many days, my brain
Worked with a dim and undetermined sense
Of unknown modes of being; o’er my thoughts
There hung a darkness, call it solitude
Or blank desertion. No familiar shapes
Remained, no pleasant images of trees,
Of sea or sky, no colours of green fields;
But huge and mighty forms, that do not live
Like living men, moved slowly through the mind
By day, and were a trouble to my dreams.

1 nature (1850)
2 a boat
5. The excerpt is best described as
   (A) an enthusiastic celebration of youthful optimism
   (B) an ironic self-portrait colored by satiric observations
   (C) an imaginative evocation without didactic intention
   (D) a symbolic representation of intellectual creativity
   (E) a narrative episode with philosophical implications

6. In lines 1-7, which of the following devices is used to present nature, the boat, and the mountain echoes?
   (A) Personification
   (B) Apostrophe
   (C) Rhyme
   (D) Paradox
   (E) Simile

7. In lines 6-7, “the voice/Of mountain-echoes” serves to reinforce the speaker’s sense of
   (A) freedom
   (B) omnipotence
   (C) furtiveness
   (D) enthusiasm
   (E) despondency

8. At the conclusion of the excerpt, the “huge peak” (line 22) seems to represent which of the following for the speaker?
   (A) An emblem of the beauty of the natural world
   (B) A figure of undefined and unsettling significance
   (C) An allegorical representation of sin itself
   (D) A curious natural phenomenon
   (E) A trivial figment of the speaker’s imagination

9. Which of the following best describes the change in the outlook of the speaker during the course of this excerpt?
   (A) Naïvety to cynicism
   (B) Bravery to cowardice
   (C) Hope to despair
   (D) Daring to uncertainty
   (E) Eagerness to sloth

Questions 10-14. Read the following poem carefully before you choose your answers.

Poor soul, the centre of my sinful earth,
Fenc’d by these rebel pow’rs that thee array,
Why dost thou pine within and suffer dearth,
Painting thy outward walls so costly gay?
Why so large cost, having so short a lease,
Dost thou upon thy fading mansion spend?
Shall worms, inheritors of this excess,
Eat up thy charge? Is this thy body’s end?
Then, soul, live thou upon thy servant’s loss,
And let that pine to aggravate thy store;
Buy terms divine in selling hours of dross;
Within be fed, without be rich no more:
So shalt thou feed on Death, that feeds on men,
And Death once dead, there’s no more dying then.

10. The dramatic situation in the poem is that of
   (A) a youth speaking to a lover
   (B) a priest speaking to a sinner
   (C) a reformer addressing an impoverished person
   (D) God addressing any human soul
   (E) an individual addressing his or her own soul

11. In the context of the poem, “Painting thy outward walls so costly gay” (line 4) refers to
   (A) camouflage
   (B) writing poetry
   (C) attending to physical appearances
   (D) pretending to be happy
   (E) preparations for a celebration

12. The poet signals a major shift at line 9 by changing from
   (A) entirely negative to entirely positive imagery
   (B) imagery of permanence to imagery of change
   (C) direct address to impersonal statement
   (D) material to spiritual imagery
   (E) questions to commands
13. Which of the following best describes the theme of the concluding couplet (lines 13-14)?

(A) A confession of sin before an almighty judge
(B) An affirmation of the immortality of the soul
(C) A declaration of rebellion against the powers of fate
(D) An accusation that death is a faithless servant
(E) A surrender to the inexplicable nature of life

14. The central contrast in the poem is expressed in all of the following pairs EXCEPT

(A) “Poor soul” . . “sinful earth” (line 1)
(B) “worms” . . “inheritors” (line 7)
(C) “soul” . . “thy servant’s” (line 9)
(D) “terms divine” . . “hours of dross” (line 11)
(E) “Within” . . “without” (line 12)
United States History
One-hour subject test

Purpose
- Measure comprehension of United States history from pre-Columbian times to the present as well as basic social science concepts, methods, and generalizations as found in the study of history

Format
- 90–95 multiple-choice questions
- Questions covering political, economic, social, intellectual, and cultural history and foreign policy
- Offered at all administrations except March

Content
Questions may require you to:
- Understand terms, concepts, and generalizations
- Recall basic information
- Understand significant aspects of U.S. history
- Analyze and interpret materials
- Relate ideas to given data
- Evaluate data for a given purpose

Recommended Preparation
- One-year comprehensive course in United States history at the college-preparatory level
- Social studies courses and outside reading

Score
- Total score: 200–800 scale

Sample Questions
All questions in the U.S. History Subject Test are multiple-choice questions in which you are asked to choose the BEST response from the five choices offered. The directions that follow are identical to those in the test.

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is BEST in each case and then fill in the corresponding circle on the answer sheet.

1. Which of the following best describes the pattern of immigration into Britain’s North American colonies during the years 1620 to 1770?
   (A) Largely English in the seventeenth century, non-English in the eighteenth century
   (B) Chiefly of English origin during the whole period
   (C) Largely non-English in the seventeenth century, English in the eighteenth century
   (D) Predominantly from southern and eastern Europe, especially after 1700
   (E) Predominantly from Asia, Africa, and Spanish America, especially after 1650

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Covered*</td>
<td></td>
</tr>
<tr>
<td>Political history</td>
<td>32–36</td>
</tr>
<tr>
<td>Economic history</td>
<td>18–20</td>
</tr>
<tr>
<td>Social history</td>
<td>18–22</td>
</tr>
<tr>
<td>Intellectual and cultural history</td>
<td>10–12</td>
</tr>
<tr>
<td>Foreign policy</td>
<td>13–17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Periods Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Columbian history to 1789</td>
</tr>
<tr>
<td>1790–1898</td>
</tr>
<tr>
<td>1899 to the present</td>
</tr>
</tbody>
</table>

*Social science concepts, methods, and generalizations are incorporated in this material.
2. George Grenville viewed the Stamp Act primarily as a means to
   (A) make the customs service more efficient
   (B) punish rebellious colonists
   (C) test the colonists’ will to resist England
   (D) create more patronage positions for the king’s courtiers
   (E) raise revenue for the crown

3. Which of the following statements is generally true of the framers of the Constitution?
   (A) They believed in the supremacy of the executive branch of the federal government.
   (B) They had great faith in the goodness and rationality of people.
   (C) They were opposed to the development of political parties.
   (D) They incorporated into the Constitution the most democratic ideals of the Declaration of Independence.
   (E) They believed the new American republic would be stable because of the unanimity of public opinion in the country on major policy issues.

4. “What is man born for but to be a reformer, a remaker of what man has made; a renouncer of lies; a restorer of truth and good, imitating that great Nature which embosoms us all, and which sleeps no moment on an old past, but every hour repairs herself, yielding every morning a new day, and with every pulsation a new life?”

   These sentiments are most characteristic of
   (A) fundamentalism
   (B) Social Darwinism
   (C) pragmatism
   (D) neoorthodoxy
   (E) transcendentalism

5. From 1870 to 1930, the trend in industry was for hours to be generally reduced, while both money wages and real wages rose. What factor was primarily responsible for this trend?
   (A) A reduction in profit margins
   (B) Minimum-wage laws
   (C) Restriction of the labor supply
   (D) Increased output per hour of work
   (E) Right-to-work legislation

6. I. “I believe it is the duty of the Negro—as the greater part of the race is already doing—to deport himself modestly in regard to political claims, depending upon the slow but sure influences that proceed from the possession of property, intelligence, and high character for the full recognition of his political rights.”

   II. “The truth is that ‘integration’ is an image, it’s a foxy Northern liberal’s smoke-screen that confuses the true wants of the American black man.”

   III. “The talented tenth of the Negro race must be made leaders of thought and missionaries of culture among their people . . . . The Negro race, like all other races, is going to be saved by its exceptional men.”

   The most probable authors of statements I, II, and III, respectively, are
   (A) Malcolm X, Nat Turner, and Martin Luther King, Jr.
   (B) Booker T. Washington, Malcolm X, and W.E.B. Du Bois
   (C) Martin Luther King, Jr., Booker T. Washington, and W.E.B. Du Bois
   (D) Nat Turner, Martin Luther King, Jr., and Booker T. Washington
   (E) W.E.B. Du Bois, Malcolm X, and Martin Luther King, Jr.

7. All of the following are true of the movement to prohibit alcoholic beverages in the United States EXCEPT:
   (A) It arose quite suddenly amid the hysteria surrounding the First World War.
   (B) It won the support of many progressive reformers.
   (C) It was often favored by people who disliked immigrants and their cultural practices.
   (D) It was a movement in which women played leading roles.
   (E) It gained strength from new scientific evidence that alcohol was harmful to health.
8. Which of the following was symbolic of the rise of American influence in the fine arts after the Second World War?
   (A) Mary Cassatt’s work in Impressionism
   (B) Thomas Eakin’s work in Realism
   (C) Grant Wood’s work in Regionalism
   (D) Jackson Pollock’s work in Abstract Expressionism
   (E) John S. Copley’s work of realistic portraiture

9. Major population shifts between 1915 and 1980 included all of the following EXCEPT a movement from
   (A) the rural South to Northern cities
   (B) New England to the Midwest
   (C) the North to the Sun Belt
   (D) the inner cities to the suburbs
   (E) the Caribbean region to the American mainland

10. Which of the following Presidents is correctly paired with an event that took place during his administration?
    (A) Lyndon B. Johnson . . . the establishment of diplomatic relations between the United States and the People’s Republic of China
    (B) John F. Kennedy . . . resolution of the Suez Crisis
    (C) Richard M. Nixon . . . the reduction of United States forces in Vietnam
    (D) Gerald R. Ford . . . the signing of the Camp David Accords
    (E) Jimmy Carter . . . resolution of the Cuban Missile Crisis

11. The Emancipation Proclamation declared slaves in which of the following areas “forever free”?
    (A) All areas of the United States
    (B) All areas of the Confederacy
    (C) Areas in border states loyal to the Union
    (D) Confederate areas still in rebellion
    (E) Areas in states controlled by Union forces

12. “The point I wish plainly to bring before you on this occasion is the individuality of each human soul; our Protestant idea, the right of individual conscience and judgment; our republican idea, individual citizenship. . . . If we consider [a woman] as a citizen, as a member of a great nation, she must have the same rights as all other members, according to the fundamental principles of our government.”

   The statement above was made by
   (A) Thomas Jefferson
   (B) Elizabeth Blackwell
   (C) Henry David Thoreau
   (D) Margaret Sanger
   (E) Elizabeth Cady Stanton

Questions 13-14. These questions refer to the following map:

13. The controversy with Great Britain over the northern boundary of the shaded section was settled during the presidency of
    (A) John Quincy Adams
    (B) James K. Polk
    (C) Franklin Pierce
    (D) James Buchanan
    (E) Andrew Johnson
14. To the north of the area shown on the map is a continental territory purchased by Secretary of State William H. Seward from

(A) Great Britain
(B) Canada
(C) Russia
(D) France
(E) Spain

15. A major change brought about by Franklin D. Roosevelt’s New Deal, 1933–1939, was the

(A) creation of machinery for maintaining full employment
(B) transformation of a business-dominated society into a labor-dominated one
(C) redistribution of population from urban centers to rural areas
(D) development of new attitudes about the role and function of government
(E) destruction of machine politics at the state and city levels

16. The 1940s poster above referred to the

(A) contribution of women to the defense industry
(B) growing popularity of women movie stars
(C) large number of women in the armed forces
(D) large number of immigrants who supported the war effort
(E) affection of Americans for their wartime President

ANSWERS
The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A (2)</td>
<td>5</td>
<td>D (4)</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>E (2)</td>
<td>6</td>
<td>B (5)</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>C (3)</td>
<td>7</td>
<td>A (4)</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>E (5)</td>
<td>8</td>
<td>D (3)</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>B (2)</td>
<td>14</td>
<td>C (2)</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>A (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
World History
One-hour subject test

Purpose
- Measure understanding of key developments in global history
- Assess ability to use basic historical techniques including application and weighing of evidence and the ability to interpret and generalize

Format
- 95 multiple-choice questions
- Questions covering political and diplomatic, social and economic, and intellectual and cultural fields
- Only offered in December and June

Content
Questions may require you to:
- Show knowledge of facts and terms
- Understand cause-and-effect relationships
- Use your knowledge of events and geography to demonstrate understanding of major historical developments
- Understand concepts essential to historical analysis
- Interpret artistic materials and assess quotations from published materials

Recommended Preparation
- One-year comprehensive course in world history at the college-preparatory level
- Independent reading of materials on historical topics

Score
- Total score: 200–800 scale

Sample Questions
All questions in the World History Subject Test are multiple-choice questions in which you are asked to choose the BEST response from the five choices offered. The directions that follow are identical to those that are in the test.

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is BEST in each case and then fill in the corresponding circle on the answer sheet.

1. Based on archaeological evidence, experts on the prehistoric period believe that the first hominids probably lived in
   (A) North America
   (B) South America
   (C) Australia and New Zealand
   (D) East Africa
   (E) Northern Europe

2. Which of the following was an important virtue in Confucianism?
   (A) Warlike prowess
   (B) Filial piety
   (C) Public charity
   (D) Poverty
   (E) Manual labor
3. Early Christians developed the monastic ideal as a means of counteracting
   (A) government interference
   (B) heresy
   (C) competition from Eastern religions
   (D) worldliness
   (E) persecution

4. The Silk Routes were important in ancient times because they
   (A) facilitated the exchange of goods and ideas between China and the Roman Empire
   (B) allowed gold and silver mined in China to be traded for European furs and wool cloth
   (C) provided trade links between the people of Siberia and the people living on islands in the Bering Sea
   (D) provided a conduit for trade in silk, porcelain, and costly gems between China and Japan
   (E) allowed carts and carriages to travel on paved roads across northern Asia as far west as the Caspian Sea

5. The bronze plaque shown above was created in
   (A) Italy
   (B) Central Asia
   (C) Arabia
   (D) West Africa
   (E) China

6. Which of the following was characteristic of the physical environments of early river-valley civilizations in the Near East?
   (A) Cool summer temperatures encouraged the production of grain crops.
   (B) Tropical forests along the riverbanks provided the population with most of its food.
   (C) The rivers maintained a steady flow year-round, fed by melting mountain glaciers.
   (D) The rivers flowed through deep mountain valleys, which sheltered early civilizations.
   (E) Rainfall was low, requiring irrigation of crops with river water.

7. The ancient Chinese symbol of the universe shown above represented
   (A) the theory that everything consists of opposite but complementary elements
   (B) the Zen concept of unity in artistic expression
   (C) Buddha's vision of the perfect shape
   (D) a dualism in which everything is in conflict, and nothing can be resolved
   (E) the moral principles of Confucius

8. In the map above, the numbered dots correspond to cities. In the eighth century, which cities were near the east-west limits of the Islamic world?
   (A) 1 and 7
   (B) 1 and 9
   (C) 2 and 6
   (D) 2 and 8
   (E) 5 and 7
9. The *encomienda* system of colonial Spanish America most closely resembled the European practice of

(A) absolutism  
(B) primogeniture  
(C) patronage  
(D) manorialism  
(E) nepotism

10. In early modern Europe, governments sought to increase national wealth and maintain a favorable balance of trade through government intervention by advocating

(A) Liberalism  
(B) Capitalism  
(C) Socialism  
(D) Utilitarianism  
(E) Mercantilism

11. “Where it is an absolute question of the welfare of our country, we must admit of no considerations of justice or injustice, or mercy or cruelty, or praise or ignominy, but putting all else aside must adopt whichever course will save its existence and preserve its liberty.”

The statement above expresses the viewpoint of which of the following?

(A) Niccolò Machiavelli  
(B) Sir Thomas More  
(C) Desiderius Erasmus  
(D) Dante Alighieri  
(E) John Calvin

12. Social Darwinists such as Herbert Spencer argued that

(A) competition allows individuals to develop their talents and meet their needs  
(B) competition and cooperation are equally important in building a productive and compassionate society  
(C) human societies progress through competition, since the strong survive and the weak perish  
(D) human societies progress through cooperation, a natural instinct that should be encouraged  
(E) God predetermines that some members of society are fated to succeed and some members are fated to fail

13. Shah Mohammad Reza Pahlavi fell from power in the Iranian revolution of 1978-1979 partly because he

(A) was moving toward a military alliance with the Soviet Union  
(B) was aggressive in modernizing the country along Western lines  
(C) insisted on strict enforcement of Islamic religious laws  
(D) tried unsuccessfully to annex Afghanistan  
(E) opposed increased educational and employment opportunities for women

14. Differences between which two religions contributed to violent conflicts in India during and after the struggle for independence in 1947?

(A) Hinduism and Buddhism  
(B) Islam and Christianity  
(C) Hinduism and Islam  
(D) Islam and Buddhism  
(E) Hinduism and Jainism

15. Most of the noncitizens currently residing in Western European countries originally came to Western Europe to

(A) consolidate the European Economic Community agreements  
(B) find employment  
(C) do graduate work in the universities  
(D) participate in the democratic political process  
(E) avoid forced military conscription in their native land

**ANSWERS**

The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

1. D (2)  
2. B (4)  
3. D (5)  
4. A (3)  
5. D (4)  
6. E (4)  
7. A (2)  
8. B (4)  
9. D (3)  
10. E (3)  
11. A (4)  
12. C (2)  
13. B (4)  
14. C (1)  
15. B (4)
Mathematics
Level 1 and Level 2
One-hour subject tests

Purpose

• Measure knowledge of mathematics through the first three years of college-preparatory mathematics for Level 1 and through precalculus for Level 2

Format and Content

• 50 multiple-choice questions
• Questions covering content typically taught in the first three years (for Level 1) or four years (for Level 2) of college-preparatory mathematics (Students are not expected to have studied every topic on either test.)
• Offered at all administrations except March

Geometric Figures

Figures that accompany problems are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a particular problem that the figure is not drawn to scale. Even when figures are not drawn to scale, the relative positions of points and angles may be assumed to be in the order shown. Also, line segments that extend through points and appear to lie on the same line may be assumed to be on the same line. The text “Note: Figure not drawn to scale.” is included on the figure when degree measures may not be accurately shown and specific lengths may not be drawn proportionally.

Recommended Preparation

Mathematics Level 1

• Three years of college-preparatory mathematics, including two years of algebra and one year of geometry

Mathematics Level 2

• More than three years of college-preparatory mathematics, including two years of algebra, one year of geometry, and elementary functions (precalculus) and/or trigonometry.
• If you have had preparation in trigonometry and elementary functions and have attained grades of B or better in these courses, select Level 2. If you are sufficiently prepared to take Level 2 but take Level 1 in hopes of receiving a higher score, you may not do as well as you expect.

Score

• Total score: 200–800 scale
• Because the content measured by the two tests differs considerably, you cannot use your score on one test to predict your score on the other or to compare scores.

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics Covered*</td>
<td>Level 1</td>
</tr>
<tr>
<td>Number and Operations</td>
<td>10–14</td>
</tr>
<tr>
<td>Operations, ratio &amp; proportion, complex numbers, counting, elementary number theory, matrices, sequences, series, vectors</td>
<td></td>
</tr>
<tr>
<td>Algebra and Functions</td>
<td>38–42</td>
</tr>
<tr>
<td>Expressions, equations, inequalities, representation and modeling, properties of functions linear, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, periodic, piecewise, recursive, parametric</td>
<td></td>
</tr>
<tr>
<td>Geometry and Measurement</td>
<td>38–42</td>
</tr>
<tr>
<td>Plane Euclidean/Measurement</td>
<td>18–22</td>
</tr>
<tr>
<td>Coordinate</td>
<td>8–12</td>
</tr>
<tr>
<td>Lines, parabolas, circles, ellipses, hyperbolas, symmetry, transformations, polar coordinates</td>
<td></td>
</tr>
<tr>
<td>Three-dimensional</td>
<td>4–6</td>
</tr>
<tr>
<td>Solids, surface area &amp; volume (cylinders, cones, pyramids, spheres, prisms), coordinates in three dimensions</td>
<td></td>
</tr>
<tr>
<td>Trigonometry</td>
<td>6–8</td>
</tr>
<tr>
<td>Right triangles, identities, radian measure, law of cosines, law of sines, equations, double angle formulas</td>
<td></td>
</tr>
<tr>
<td>Data Analysis, Statistics, and Probability</td>
<td>8–12</td>
</tr>
<tr>
<td>Mean, median, mode, range, interquartile range, standard deviation, graphs and plots, least-squares regression (linear, quadratic, exponential), probability</td>
<td></td>
</tr>
</tbody>
</table>

*Topics in italics are tested on the Level 2 Test only. The content of Level 1 overlaps somewhat with that on Level 2, but the emphasis on Level 2 is on more advanced content. Plane Euclidean geometry is not tested directly on Level 2.
Calculators

Be sure to bring a calculator to use on these tests: if you take these tests without a calculator, you will be at a disadvantage. In fact, some questions cannot be solved without a scientific or a graphing calculator.

- Verify that your calculator is in good working condition before you take the test.
- If possible, bring batteries and a backup calculator to the test center. No substitute calculators or batteries will be available. Students may not share calculators.
- If your calculator malfunctions during the Level 1 or Level 2 tests and you do not have a backup calculator, you can cancel scores on just the mathematics tests. You must tell your test supervisor when the malfunction occurs in order to cancel scores on these tests only.

What Type of Calculator Should I Bring?

- Bring a calculator that you are used to using. It may be a scientific or a graphing calculator. If you’re comfortable with both a scientific and a graphing calculator, bring a graphing calculator.
- **We recommend the use of a graphing calculator over a scientific calculator** because a graphing calculator may provide an advantage on some questions.

The following calculators are unacceptable:

- Models that have wireless, Bluetooth, cellular, audio/video recording and playing, camera, or any other cell phone type feature
- Models that can access the Internet
- Models that have QWERTY, pen-input, stylus,* or touch-screen capability; require electrical outlets; or use paper tape
- Models that “talk” or make unusual noises
  *The use of the stylus with the Sharp EL-9600 calculator is not permitted.

Using the Calculator

You do not need to use a calculator to solve every question, but it is important to know when and how to use one. First decide how you will solve a problem; then determine whether the calculator is needed.

- You’ll need a calculator for 40 to 50 percent of the questions on Level 1 and 55 to 65 percent of the questions on Level 2.
- For the rest of the questions, there is no advantage, perhaps even a disadvantage, to using a calculator.

- **Do not round any intermediate calculations.** If you get a result from the calculator for the first step of a solution, keep the result in the calculator and use it for the second step. If you round the result from the first step, your answer may not be one of the choices.
- You may not use a calculator for other Subject Tests and must put it away when not taking a mathematics test.

Sample Questions

All questions in the Mathematics Level 1 and Mathematics Level 2 Subject Tests are multiple-choice questions in which you are asked to choose the best response from the five choices offered. The directions for the tests are below:

**Directions:** For each of the following problems, decide which is the **BEST** of the choices given. If the exact numerical value is not one of the choices, select the choice that best approximates this value. Then fill in the corresponding circle on the answer sheet.

**Notes:**
1. A scientific or graphing calculator will be necessary for answering some (but not all) of the questions in this test. For each question you will have to decide whether or not you should use a calculator.
2. **Level 1:** The only angle measure used on this test is degree measure. Make sure your calculator is in the degree mode.
3. **Level 2:** For some questions in this test you may have to decide whether your calculator should be in the radian mode or the degree mode.
4. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that its figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
5. **Level 1:** The only angle measure used on this test is degree measure. Make sure your calculator is in the degree mode.
6. **Level 2:** For some questions in this test you may have to decide whether your calculator should be in the radian mode or the degree mode.
7. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that its figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
8. **Level 1:** The only angle measure used on this test is degree measure. Make sure your calculator is in the degree mode.
9. **Level 2:** For some questions in this test you may have to decide whether your calculator should be in the radian mode or the degree mode.
10. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that its figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
Reference Information. The following information is for your reference in answering some of the questions in this test.

Volume of a right circular cone with radius $r$ and height $h$: $V = \frac{1}{3} \pi r^2 h$

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

Volume of a pyramid with base area $B$ and height $h$: $V = \frac{1}{3} Bh$

Surface Area of a sphere with radius $r$: $S = 4\pi r^2$

Mathematics Level 1

1. A band wants to distribute its music on compact discs (CDs). The equipment to produce the CDs costs $250, and blank CDs cost $5.90 for a package of 10. Which of the following represents the total cost, in dollars, to produce $n$ CDs, where $n$ is a multiple of 10?
   (A) $250 + 0.59n$  
   (B) $250 + 0.59n$  
   (C) $250 + 5.90n$  
   (D) $250 + 5.90n$  
   (E) $250n + 5.90$

2. In the figure above, $\overline{AB}$ and $\overline{CD}$ are parallel. What is $x$ in terms of $y$ and $z$?
   (A) $y + z$  
   (B) $2y + z$  
   (C) $2y - z$  
   (D) $180 - y - z$  
   (E) $180 + y - z$

3. A number $n$ is increased by 8. If the cube root of that result equals $-0.5$, what is the value of $n$?
   (A) $-15.625$  
   (B) $-8.794$  
   (C) $-8.125$  
   (D) $-7.875$  
   (E) $421.875$

4. If $a$ and $b$ are real numbers, $i^2 = -1$, and $(a + b) + 5i = 9 + ai$, what is the value of $b$?
   (A) 4  
   (B) 5  
   (C) 9  
   (D) $4 + 5i$  
   (E) $5 + 4i$

5. What are all values of $x$ for which $4 - x^2 \geq x - 2$?
   (A) $x \geq -3$  
   (B) $-5 \leq x \leq 0$  
   (C) $-3 \leq x \leq 2$  
   (D) $x \leq -3$ or $x \geq 2$  
   (E) $-2 \leq x \leq 3$

6. The graphs above show United States Census Bureau population figures for the year 2000 for various age groups, together with projections for the year 2050. Of the following age groups, for which is the projected percent increase in population from 2000 to 2050 greatest?
   (A) 30–39  
   (B) 40–49  
   (C) 50–59  
   (D) 60–69  
   (E) 70–79

7. If $\log_c a = x$, which of the following must be true?
   (A) $a^c = x$  
   (B) $a^x = c$  
   (C) $c^a = x$  
   (D) $c^x = a$  
   (E) $x^c = a$

8. If $f(x) = x + 3$ and $g(x) = \frac{x^2 - 9}{x - 3}$, which of the following statements are true about the graphs of $f$ and $g$ in the $xy$-plane?
   I. The graphs are exactly the same.
   II. The graphs are the same except when $x = 3$.
   III. The graphs have an infinite number of points in common.
   (A) I only  
   (B) II only  
   (C) III only  
   (D) I and III  
   (E) II and III
9. If line \( \ell \) is the perpendicular bisector of the line segment with endpoints \((2, 0)\) and \((0, -2)\), what is the slope of line \( \ell \)?

(A) 2  (B) 1  (C) 0  (D) \(-1\)  (E) \(-2\)

10. Twenty students have each sampled one or more of three kinds of candy bars that a school store sells. If 3 students have sampled all three kinds, and 5 have sampled exactly two kinds, how many of these students have sampled only one kind?

(A) 8  (B) 12  (C) 15  (D) 17  (E) 18

11. In the figure above, \( \triangle ABC \) has a right angle at \( C \). If the length of side \( AC \) is 10 and the measure of \( \angle BAC \) is 22°, what is the length of side \( BC \)?

(A) 3.7  (B) 4.0  (C) 5.8  (D) 6.8  (E) 9.3

12. The function \( h \) given by \( h(t) = -16t^2 + 46t + 5 \) represents the height of a ball, in feet, \( t \) seconds after it is thrown. To the nearest foot, what is the maximum height the ball reaches?

(A) 5  (B) 23  (C) 35  (D) 38  (E) 46

13. The front, side, and bottom faces of a rectangular solid have areas of 24 square centimeters, 8 square centimeters, and 3 square centimeters, respectively. What is the volume of the solid, in cubic centimeters?

(A) 24  (B) 96  (C) 192  (D) 288  (E) 576

14. Rectangle \( ABCD \) is inscribed in the circle shown above. If the length of side \( AB \) is 5 and the length of side \( BC \) is 12, what is the area of the shaded region?

(A) 40.8  (B) 53.1  (C) 72.7  (D) 78.5  (E) 81.7

15. If \( f(x) = x^4 - 3x^3 - 9x^2 + 4 \), for how many real numbers \( k \) does \( f(k) = 2 \)?

(A) None  (B) One  (C) Two  (D) Three  (E) Four

16. If the measure of one angle of a rhombus is 60°, then the ratio of the length of its longer diagonal to the length of its shorter diagonal is

(A) 2  (B) \( \sqrt{3} \)  (C) \( \sqrt{2} \)  (D) \( \frac{\sqrt{3}}{2} \)  (E) \( \frac{\sqrt{2}}{2} \)

<table>
<thead>
<tr>
<th>Time ( t ) (years)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value ( v(t) ) (dollars)</td>
<td>15,000</td>
<td>13,000</td>
<td>10,900</td>
<td>3,000</td>
</tr>
</tbody>
</table>

17. When purchased, an automobile is valued at $15,000. Its value depreciates at the rate shown in the table above. Based on a least-squares linear regression, what is the value, to the nearest hundred dollars, of the automobile when \( t = 4 \) ?

(A) $5,400  (B) $5,500  (C) $5,600  (D) $6,400  (E) $7,000
### Mathematics Level 2

18. What is the distance in space between the points with coordinates \((-3, 6, 7)\) and \((2, -1, 4)\)?
   (A) 4.36  (B) 5.92  (C) 7.91  
   (D) 9.11  (E) 22.25

19. If \(f(x) = \frac{3x + 12}{2x - 12}\), what value does \(f(x)\) approach as \(x\) gets infinitely larger?
   (A) \(-6\)  (B) \(-\frac{3}{2}\)  (C) \(-1\)  
   (D) \(\frac{2}{3}\)  (E) \(\frac{3}{2}\)

20. In January 1990 the world’s population was 5.3 billion. Assuming a growth rate of 2 percent per year, the world’s population, in billions, for \(t\) years after 1990 can be modeled by the equation \(P = 5.3(1.02)^t\). According to the model, the population growth from January 1995 to January 1996 was
   (A) 106,000,000  (B) 114,700,000  
   (C) 117,000,000  (D) 445,600,000  
   (E) 562,700,000

21. What is the measure of one of the larger angles of a parallelogram in the xy-plane that has vertices with coordinates \((2, 1), (5, 1), (3, 5), \) and \((6, 5)\)?
   (A) 93.4\(^\circ\)  (B) 96.8\(^\circ\)  (C) 104.0\(^\circ\)  
   (D) 108.3\(^\circ\)  (E) 119.0\(^\circ\)

22. For some real number \(t\), the first three terms of an arithmetic sequence are \(2t, 5t - 1,\) and \(6t + 2\). What is the numerical value of the fourth term?
   (A) 4  (B) 8  (C) 10  
   (D) 16  (E) 19

23. The diameter and height of a right circular cylinder are equal. If the volume of the cylinder is 2, what is the height of the cylinder?
   (A) 1.37  (B) 1.08  (C) 0.86  
   (D) 0.80  (E) 0.68

24. If \(\sin \theta = 0.57\), then \(\sin(\pi - \theta) = \)
   (A) \(-0.57\)  (B) \(-0.43\)  (C) 0  
   (D) 0.43  (E) 0.57

25. In a group of 10 people, 60 percent have brown eyes. Two people are to be selected at random from the group. What is the probability that neither person selected will have brown eyes?
   (A) 0.13  (B) 0.16  (C) 0.25  
   (D) 0.36  (E) 0.64

26. In the figure above, two lines are tangent to a circle of radius 2 at points \(A\) and \(B\). What is the length of segment \(AB\) (not shown)?
   (A) 1.37  (B) 1.69  (C) 3.06  
   (D) 3.63  (E) 4

27. If \(x - 2\) is a factor of \(x^3 + kx^2 + 12x - 8\), then \(k = \)
   (A) \(-6\)  (B) \(-3\)  (C) 2  
   (D) 3  (E) 6

28. If \(f(x) = \sqrt[3]{x^3} + 1\), what is \(f^{-1}(1.5)\)?
   (A) 3.4  (B) 2.4  (C) 1.6  
   (D) 1.5  (E) 1.3

<table>
<thead>
<tr>
<th>(x)</th>
<th>(-9.8)</th>
<th>(-0.9)</th>
<th>5.2</th>
<th>8.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>(y)</td>
<td>0.12</td>
<td>2.43</td>
<td>18.46</td>
<td>68.4</td>
</tr>
</tbody>
</table>

29. Which of the following equations best models the data in the table above?
   (A) \(y = -3.3(1.4)^x\)  
   (B) \(y = -1.4(3.3)^x\)  
   (C) \(y = 1.4(3.3)^x\)  
   (D) \(y = 3.3(1.4)^x\)  
   (E) \(y = 1.4x^{3.3}\)
30. The linear regression model above is based on an analysis of nutritional data from 14 varieties of cereal bars to relate the percent of calories from fat \((F)\) to the percent of calories from carbohydrates \((C)\). Based on this model, which of the following statements must be true?

I. There is a positive correlation between \(C\) and \(F\).

II. When 20 percent of calories are from fat, the predicted percent of calories from carbohydrates is approximately 73.

III. The slope indicates that as \(F\) increases by 1, \(C\) decreases by 1.02.

(A) II only  (B) I and II only  
(C) I and III only  (D) II and III only  
(E) I, II, and III

31. A line has parametric equations \(x = 5 + t\) and \(y = 7 + t\), where \(t\) is the parameter. The slope of the line is

(A) \(\frac{5}{7}\)  (B) 1  (C) \(\frac{7 + t}{5 + t}\)  
(D) \(\frac{7}{5}\)  (E) 7

32. What is the range of the function defined by

\[
f(x) = \frac{1}{x} + 2\]

(A) All real numbers  
(B) All real numbers except \(-\frac{1}{2}\)  
(C) All real numbers except 0  
(D) All real numbers except 2  
(E) All real numbers between 2 and 3

33. The number of hours of daylight, \(d\), in Hartsville can be modeled by

\[
d = \frac{35}{3} + \frac{7}{3} \sin \left(\frac{2\pi}{365} t\right)\]

where \(t\) is the number of days after March 21. The day with the greatest number of hours of daylight has how many more daylight hours than May 1? (March and May have 31 days each. April and June have 30 days each.)

(A) 0.8 hr  (B) 1.5 hr  (C) 2.3 hr  
(D) 3.0 hr  (E) 4.7 hr

34. The table above shows the number of digital cameras that were sold during a three-day sale. The prices of models \(X\), \(Y\), and \(Z\) were $99, $199, and $299, respectively. Which of the following matrix representations gives the total income, in dollars, received from the sale of the cameras for each of the three days?

(A) \[
\begin{bmatrix}
20 & 18 & 3 \\
19 & 11 & 10
\end{bmatrix}
\]

(B) \[
\begin{bmatrix}
20 & 18 & 3 \\
16 & 5 & 8 \quad 199 \\
19 & 11 & 10 \quad 299
\end{bmatrix}
\]

(C) \[
\begin{bmatrix}
99 & 199 & 299 \\
16 & 5 & 8 \\
19 & 11 & 10
\end{bmatrix}
\]

(D) \[
\begin{bmatrix}
99 & 199 & 299 \\
16 & 5 & 8 \\
19 & 11 & 10
\end{bmatrix}
\]

(E) \[
\begin{bmatrix}
20 & 18 & 3 \\
16 & 5 & 8 \\
19 & 11 & 10
\end{bmatrix} \quad 199 \\
\begin{bmatrix}
20 & 18 & 3 \\
16 & 5 & 8 \\
19 & 11 & 10
\end{bmatrix} \quad 299 \\
\begin{bmatrix}
20 & 18 & 3 \\
16 & 5 & 8 \\
19 & 11 & 10
\end{bmatrix}
\]

ANSWERS

The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

**Mathematics Level 1**

**Mathematics Level 2**
19. E (2)  23. A (3)  27. A (2)  31. B (3)
Biology E/M

One-hour subject tests

**Purpose**
- Measure knowledge of biology at a college-preparatory level with either an ecological emphasis (Biology-E) or a molecular emphasis (Biology-M)

**How to Choose Biology-E or Biology-M**
- Take Biology-E if you feel more comfortable answering questions pertaining to biological communities, populations, and energy flow.
- Take Biology-M if you feel more comfortable answering questions pertaining to biochemistry, cellular structure and processes, such as respiration and photosynthesis.

Once you decide which emphasis to take, you need to fill in the appropriate code for the test you have chosen on your answer sheet. **Important:** If you change your mind, you must change the code on the answer sheet to match your test; otherwise, your answers to the 20 specialized questions will not be scored correctly.

You are not allowed to take Biology-E and Biology-M on the same test date. You can take them on two different test dates.

**Format**
- 60 multiple-choice questions that are common to both Biology-E and Biology-M
- 20 specialized multiple-choice questions for either Biology-E or Biology-M
- Total of 80 questions answered by each test-taker
- Offered at all administrations except March

**Content**
Questions may require you to:
- Recall and understand the major concepts of biology and to apply the principles
- Organize and interpret results obtained by observation and experimentation
- Draw conclusions or make inferences from experimental data, including data presented in graphic or tabular form
- Solve problems with simple numerical calculations using the metric system

**Recommended Preparation**
- One-year course in biology
- One-year course in algebra and familiarity with simple algebraic concepts such as ratios and direct and inverse proportions
- Laboratory experience

**Score**
- Total score: 200–800 scale

### CONTENT

<table>
<thead>
<tr>
<th></th>
<th>Approximate % Test E</th>
<th>Approximate % Test M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellular and Molecular Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cell structure and organization, photosynthesis, cellular respiration, enzymes, biosynthesis, biological chemistry</td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>Ecology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy flow, nutrient cycles, populations, communities, ecosystems, biomes, conservation biology, biodiversity, effects of human intervention</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Genetics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meiosis, Mendelian genetics, inheritance patterns, molecular genetics, population genetics</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Organismal Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure, function, and development of organisms (with emphasis on plants and animals), animal behavior</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Evolution and Diversity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Origin of life, evidence of evolution, patterns of evolution, natural selection, speciation, classification and diversity of organisms</td>
<td>22</td>
<td>15</td>
</tr>
</tbody>
</table>

### BIOLOGY-E AND BIOLOGY-M

<table>
<thead>
<tr>
<th>Skills Specifications</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Fundamental Concepts</td>
<td>30</td>
</tr>
<tr>
<td>Remembering specific facts; demonstrating straightforward knowledge of information and familiarity with terminology</td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td>35</td>
</tr>
<tr>
<td>Understanding concepts and reformulating information into other equivalent forms; applying knowledge to unfamiliar and/or practical situations; solving problems using mathematical relationships</td>
<td></td>
</tr>
<tr>
<td>Interpretation</td>
<td>35</td>
</tr>
<tr>
<td>Inferring and deducing from qualitative and quantitative data and integrating information to form conclusions; recognizing unstated assumptions</td>
<td></td>
</tr>
</tbody>
</table>
Sample Questions

All of the questions in the test are multiple-choice questions for which you must choose the best response from the five choices offered. Some questions are grouped in sets that refer to a common figure, table, or laboratory experiment.

Biology E/M Core Section

Directions: Each set of lettered choices below refers to the numbered statements immediately following it. Select the one lettered choice that best fits each statement and then fill in the corresponding circle on the answer sheet. A choice may be used once, more than once, or not at all in each set.

Questions 1-2

(A) Decomposers (e.g., bacteria)
(B) Producers (e.g., grasses)
(C) Primary consumers (e.g., mice)
(D) Secondary consumers (e.g., snakes)
(E) Tertiary consumers (e.g., hawks)

1. Organisms that comprise the greatest mass of living substance (biomass) in a terrestrial food chain

2. Organisms that convert nitrogen-containing organic molecules into nitrates

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is best in each case and then fill in the corresponding circle on the answer sheet.

3. In the graph above, the time when the number of living bacteria is increasing at the greatest rate occurs
   (A) during the first 2 hours
   (B) between the 2nd and the 4th hour
   (C) between the 4th and the 6th hour
   (D) between the 6th and the 10th hour
   (E) between the 11th and the 13th hour

4. ATP is produced during which of the following processes?
   I. Photosynthesis
   II. Aerobic respiration
   III. Fermentation
   (A) I only  (B) II only  (C) I and III only  (D) II and III only  (E) I, II, and III

5. All of the following are population characteristics EXCEPT
   (A) number of individuals
   (B) phenotype
   (C) sex ratio
   (D) age distribution
   (E) death rate

6. True statements about the development of the frog and mouse embryos include which of the following?
   I. Both the frog and the mouse embryos develop in an aqueous environment.
   II. Both the frog and the mouse embryos depend on a large supply of yolk to sustain the developing embryo.
   III. Both the frog and the mouse embryos develop a 4-chambered heart.
   (A) I only  (B) III only  (C) I and II only  (D) II and III only  (E) I, II, and III
Questions 7-8 refer to the following diagram:

7. Commonly, the fruit is derived from
   (A) 2 (B) 4 (C) 7
   (D) 8 (E) 9

8. Pollination involves a transfer of pollen from
   (A) 4 to 1 (B) 4 to 2 (C) 4 to 5
   (D) 5 to 4 (E) 5 to 9

Directions: Each group of questions below concerns a laboratory or experimental situation. In each case, first study the description of the situation. Then choose the one best answer to each question following it and fill in the corresponding circle on the answer sheet.

Questions 9-10

In a breeding experiment using gray and white mice of unknown genotypes, the following results were obtained.

<table>
<thead>
<tr>
<th>Parents</th>
<th>Offspring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross</td>
<td>Female</td>
</tr>
<tr>
<td>I</td>
<td>Gray</td>
</tr>
<tr>
<td>II</td>
<td>Gray</td>
</tr>
<tr>
<td>III</td>
<td>White</td>
</tr>
<tr>
<td>IV</td>
<td>Gray</td>
</tr>
</tbody>
</table>

9. If the gray female from cross IV were mated with the gray male from cross II, then which of the following would most likely be true?
   (A) All of the offspring would be gray.
   (B) All of the offspring would be white.
   (C) Half of the offspring would be gray.
   (D) One-quarter of the offspring would be gray.
   (E) One-quarter of the offspring would be white.

10. If two gray progeny of cross IV mate with each other, what is the probability that any one individual offspring will be gray?
    (A) 100% (B) 75% (C) 50%
    (D) 25% (E) 0

Questions 11-12

Three students added equal volumes of pond water to each of four beakers (I–IV) and placed each in a different constant temperature bath, maintained at 5°C, 15°C, 25°C, and 35°C, respectively. The students then added 6 water fleas, Daphnia pulex, to each of the four beakers and recorded the time in each case. After 1 hour, the students removed 3 Daphnia pulex from each beaker and each student immediately observed one Daphnia pulex under low-power magnification of a light microscope. (The transparent body of the Daphnia pulex can be seen easily under a light microscope.) Heart rates were recorded as beats per minute. The results of the experiment are summarized in the chart below.

<table>
<thead>
<tr>
<th>BEAKER</th>
<th>TEMPERATURE</th>
<th>TIME DAPHNIA ADDED</th>
<th>TIME DAPHNIA REMOVED</th>
<th>HEARTBEATS PER MINUTE (average of 3 Daphnia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>5°C</td>
<td>2:00 p.m.</td>
<td>3:00 p.m.</td>
<td>41</td>
</tr>
<tr>
<td>II</td>
<td>15°C</td>
<td>2:10 p.m.</td>
<td>3:10 p.m.</td>
<td>119</td>
</tr>
<tr>
<td>III</td>
<td>25°C</td>
<td>2:20 p.m.</td>
<td>3:20 p.m.</td>
<td>202</td>
</tr>
<tr>
<td>IV</td>
<td>35°C</td>
<td>2:30 p.m.</td>
<td>3:30 p.m.</td>
<td>281</td>
</tr>
</tbody>
</table>

11. The independent variable in this experiment is the
    (A) amount of light
    (B) number of water fleas
    (C) pH of the water
    (D) temperature of the water
    (E) average heart rate
12. If a graph is constructed using the data given in the table, it will most closely resemble which of the following?

(A) ![Graph A](image)

(B) ![Graph B](image)

(C) ![Graph C](image)

(D) ![Graph D](image)

(E) ![Graph E](image)

**Biology-E Section**

13. Which of the following individuals is most fit in evolutionary terms?

(A) A child who does not become infected with any of the usual childhood diseases, such as measles or chicken pox

(B) A woman of 40 with seven adult offspring

(C) A woman of 80 who has one adult offspring

(D) A 100-year old man with no offspring

(E) A childless man who can run a mile in less than five minutes

**Questions 14-15**

Known numbers of seeds from two species (X and Y) of annual plants are mixed together in different proportions and planted in five small plots of soil in the spring. The plants grow, flower, and produce seeds. It is found that the percentage of seeds of species X and species Y in the harvest is usually different from the proportion that was planted, although the total number of seeds produced is the same as the number of seeds planted. The data are plotted on the graph below.

14. What mixture of seeds was harvested in the plot that was planted with 25 percent species X and 75 percent species Y?

X  
(A) 25% 75%
(B) 40% 60%
(C) 50% 50%
(D) 60% 40%
(E) 75% 25%

15. What do the data indicate about the ecological relationship between species X and species Y?

(A) X and Y are mutualistic for low percentages of X seeds.

(B) X and Y are mutualistic for high percentages of X seeds.

(C) X and Y compete when both X and Y seeds are present.

(D) Y competes successfully against X at all percentages of X and Y seeds.

(E) X is parasite of Y when Y is rare.
16. Which of the following most accurately reveals common ancestry among many different species of organisms?
(A) The amino acid sequence of their cytochrome C
(B) Their ability to synthesize hemoglobin
(C) The percentage of their body weight that is fat
(D) The percentage of their body surface that is used in gas exchange
(E) The mechanism of their mode of locomotion

Questions 17-18

Thymine is used by animal cells primarily for the synthesis of DNA. A group of sea urchin eggs was fertilized in sea water containing radioactive thymine. Following fertilization, samples of embryos were removed at regular intervals and the radioactivity in the nucleic acid was measured in counts per minute. The results obtained are shown in the figure below.

17. The increase in radioactivity of the embryos with time probably results from
(A) synthesis of new proteins by the developing embryos
(B) synthesis of radioactive thymine by the developing embryos
(C) oxidation of radioactive thymine
(D) incorporation of radioactive thymine in new cell membranes
(E) incorporation of radioactive thymine in new DNA during replication

18. An appropriate control to show that this experiment measures DNA synthesis and not RNA synthesis would be to perform the same procedures but
(A) not fertilize the eggs
(B) sample the embryos at longer time intervals
(C) add radioactive uracil instead of radioactive thymine
(D) fertilize the eggs in sea water that does not contain radioactive thymine
(E) count the number of cells in the embryos at the beginning and at the end of the experiment

ANSWERS

The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

5. B (2) 10. B (4) 15. C (5)
Chemistry
One-hour subject test

Purpose
- Measure understanding of chemistry at a level suitable for college preparation, independent of the particular textbook used or instructional approach

Format
- 85 multiple-choice questions
- Approximately five questions on equation balancing and/or predicting products of chemical reactions, which are distributed among the various content categories
- Offered at all administrations except March

Content
Questions cover topics emphasized in most high school courses. Because of course differences, most students will find that there are some questions on topics with which they are not familiar.

Questions may require you to:
- Recall and understand the major concepts of chemistry and to apply the principles to solve specific problems in chemistry
- Organize and interpret results obtained by observation and experimentation and to draw conclusions or make inferences from experimental data, including data presented in graphic and/or tabular form

On this Subject Test, please note that:
- A periodic table indicating the atomic numbers and masses of elements is provided for all test administrations
- Problem solving requires simple numerical calculations
- The metric system of units is used

NOTE: Calculator use is not permitted.

Recommended Preparation
- One-year introductory chemistry course at the college-preparatory level
- Laboratory experience, which is a significant factor in developing reasoning and problem-solving skills and should help in test preparation even though laboratory skills can be tested only in a limited way in a multiple-choice test
- Mathematics preparation that enables handling simple algebraic relationships and applying these to solving word problems
- Familiarity with the concepts of ratio and direct and inverse proportions, exponents, and scientific notation

Score
- Total score: 200–800 scale

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics Covered</td>
<td></td>
</tr>
<tr>
<td>Structure of Matter</td>
<td>25</td>
</tr>
<tr>
<td>Atomic Structure, including experimental evidence of atomic structure, quantum numbers and energy levels (orbitals), electron configurations, periodic trends</td>
<td></td>
</tr>
<tr>
<td>Molecular Structure, including Lewis structures, three-dimensional molecular shapes, polarity</td>
<td></td>
</tr>
<tr>
<td>Bonding, including ionic, covalent, and metallic bonds, relationships of bonding to properties and structures; intermolecular forces such as hydrogen bonding, dipole-dipole forces, dispersion (London) forces</td>
<td></td>
</tr>
<tr>
<td>States of Matter</td>
<td>16</td>
</tr>
<tr>
<td>Gases, including the kinetic molecular theory, gas law relationships, molar volumes, density, and stoichiometry</td>
<td></td>
</tr>
<tr>
<td>Liquids and Solids, including intermolecular forces in liquids and solids, types of solids, phase changes, and phase diagrams</td>
<td></td>
</tr>
<tr>
<td>Solutions, including molarity and percent by mass concentrations, solution preparation and stoichiometry, factors affecting solubility of solids, liquids, and gases, qualitative aspects of colligative properties</td>
<td></td>
</tr>
<tr>
<td>Reaction Types</td>
<td>14</td>
</tr>
<tr>
<td>Acids and Bases, including Brønsted-Lowry theory, strong and weak acids and bases, pH, titrations, indicators</td>
<td></td>
</tr>
<tr>
<td>Oxidation-Reduction, including recognition of oxidation-reduction reactions, combustion, oxidation numbers, use of activity series</td>
<td></td>
</tr>
<tr>
<td>Precipitation, including basic solubility rules</td>
<td></td>
</tr>
<tr>
<td>Stoichiometry</td>
<td>14</td>
</tr>
<tr>
<td>Mole Concept, including molar mass, Avogadro’s number, empirical and molecular formulas</td>
<td></td>
</tr>
<tr>
<td>Chemical Equations, including the balancing of equations, stoichiometric calculations, percent yield, and limiting reactants</td>
<td></td>
</tr>
<tr>
<td>Equilibrium and Reaction Rates</td>
<td>5</td>
</tr>
<tr>
<td>Equilibrium Systems, including factors affecting position of equilibrium (LeChâtelier’s principle) in gaseous and aqueous systems, equilibrium constants, and equilibrium expressions</td>
<td></td>
</tr>
<tr>
<td>Rates of Reactions, including factors affecting reaction rates, potential energy diagrams, activation energies</td>
<td></td>
</tr>
</tbody>
</table>
Directions: Each set of lettered choices below refers to the numbered statements or questions immediately following it. Select the one lettered choice that best fits each statement or answers each question and then fill in the corresponding circle on the answer sheet. A choice may be used once, more than once, or not at all in each set.

Questions 1-3 refer to the following aqueous solutions.

1. Is weakly acidic
2. Has the highest pH
3. Reacts with an equal volume of 0.05 M Ba(OH)₂ to form a solution with pH = 7

Questions 4-6 refer to the following ionic species.

4. A type of ion found in sodium acetate
5. A type of ion found in aluminum oxide
6. A type of ion found in potassium phosphate

Questions 7-10 refer to the following atoms in the ground state.

7. Has the electron configuration 1s² 2s²2p⁴ 3s²3p⁴
8. Has the same number of electrons as Ca²⁺
9. Has electrons in f orbitals
10. Is the LEAST chemically reactive

Sample Questions

Three types of questions are used in the Chemistry Subject Test: classification questions, relationship analysis questions, and five-choice completion questions. The directions that follow are identical to those that are in the test.

Note: For all questions involving solutions, assume that the solvent is water unless otherwise stated.
On the actual Chemistry Test, the following type of question must be answered on a special section (labeled “Chemistry”) at the lower left-hand corner of your answer sheet. These questions will be numbered beginning with 101 and must be answered according to the following directions.

Sample Answer Grid
*Fill in circle CE (correct explanation) only if statement II is a correct explanation of the true statement I.

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>CE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>T</td>
<td>F</td>
<td></td>
</tr>
</tbody>
</table>

Directions: Each question below consists of two statements, I in the left-hand column and II in the right-hand column. For each question, determine whether statement I is true or false and whether statement II is true or false and fill in the corresponding T or F circles on your answer sheet. *Fill in circle CE only if statement II is a correct explanation of the true statement I.

11. The hydrogen ion concentration of a solution prepared by diluting 50. mL of 0.10 \( M \) \( \text{HNO}_3(aq) \) with water to 500. mL of solution is
   \( \text{(A) 0.0010} \ M \) \( \text{(B) 0.0050} \ M \) \( \text{(C) 0.010} \ M \) \( \text{(D) 0.050} \ M \) \( \text{(E) 1.0} \ M \)

\[ \ldots \text{Cu}^{2+}(aq) + \ldots \text{I}^-(aq) \rightarrow \ldots \text{CuI(s)} + \ldots \text{I}_2(s) \]

12. When the equation above is balanced and all coefficients are reduced to lowest whole-number terms, the coefficient for \( \text{I}^-(aq) \) is
   \( \text{(A) 1} \) \( \text{(B) 2} \) \( \text{(C) 3} \) \( \text{(D) 4} \) \( \text{(E) 5} \)

13. The bulb of the open-end manometer shown above contains a gas. True statements about this system include which of the following?
   I. Only atmospheric pressure is exerted on the exposed mercury surface in the right side of the tube.
   II. The gas pressure is greater than atmospheric pressure.
   III. The difference in the height, \( h \), of mercury levels is equal to the pressure of the gas.
   \( \text{(A) II only} \) \( \text{(B) III only} \) \( \text{(C) I and II only} \) \( \text{(D) I and III only} \) \( \text{(E) I, II, and III} \)

On the actual Chemistry Test, the remaining questions must be answered by returning to the section of your answer sheet you started for the Chemistry Test.

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is best in each case and then fill in the corresponding circle on the answer sheet.
14. A thermometer is placed in a test tube containing a melted pure substance. As slow cooling occurs, the thermometer is read at regular intervals until well after the sample has solidified. Which of the following types of graphs is obtained by plotting temperature versus time for this experiment?

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

15. From their electron configurations, one can predict that the geometric configuration for which of the following molecules is NOT correct?

- (A) PF₃ trigonal planar
- (B) CF₄ tetrahedral
- (C) CHCl₃ irregular tetrahedron
- (D) OF₂ bent (v-shaped)
- (E) HF linear

C₃H₄(g) + 5 O₂(g) → 3 CO₂(g) + 4 H₂O(l)

16. According to the reaction represented by the unbalanced equation above, how many moles of SO₂(g) are required to react completely with 1 mol of O₂(g) ?

- (A) 0.5 mol
- (B) 1 mol
- (C) 2 mol
- (D) 3 mol
- (E) 4 mol

17. Analysis by mass of a certain compound shows that it contains 14 percent hydrogen and 86 percent carbon. Which of the following is the most informative statement that can properly be made about the compound on the basis of these data?

- (A) It is a hydrocarbon.
- (B) Its empirical formula is CH₂.
- (C) Its molecular formula is C₆H₄.
- (D) Its molar mass is 28 g/mol.
- (E) It contains a triple bond.

18. The combustion of propane, C₃H₈(g), proceeds according to the equation above. How many grams of water will be formed in the complete combustion of 44.0 grams of propane?

- (A) 4.50 g
- (B) 18.0 g
- (C) 44.0 g
- (D) 72.0 g
- (E) 176 g

19. The number of oxygen atoms in 0.50 mole of KHSO₄ is

- (A) 1.2 × 10²³
- (B) 2.4 × 10²³
- (C) 3.0 × 10²³
- (D) 1.2 × 10²⁴
- (E) 2.4 × 10²⁴

20. All of the following statements about carbon dioxide are true EXCEPT:

- (A) It can be prepared by the action of acid on limestone.
- (B) It is used to extinguish fires.
- (C) It dissolves in water at room temperature.
- (D) It sublimes rather than melts at 20°C and 1 atmosphere pressure.
- (E) It is less dense than air at a given temperature and pressure.
21. For elements in the left-most column of the periodic table, properties that have increasing values as the atomic number increases include which of the following?
   I. Ionization energy (potential)
   II. Atomic radius
   III. Atomic mass
   (A) I only
   (B) III only
   (C) I and II only
   (D) II and III only
   (E) I, II, and III

22. All of the following can act as Brønsted-Lowry acids (proton donors) in aqueous solution EXCEPT
   (A) HI  (B) NH₄⁺  (C) HCO₃⁻  (D) H₂S  (E) NH₃

23. What is the minimum number of moles of PbSO₄ that must be used to prepare 1 liter of saturated PbSO₄ solution at 25°C? \( (K_{sp} \text{ at } 25°C \text{ for } PbSO₄ = 1 \times 10^{-11}) \)
   (A) \( 1 \times 10^{-16} \) mol
   (B) \( 1 \times 10^{-9} \) mol
   (C) \( 1 \times 10^{-2} \) mol
   (D) \( 1 \times 10^{-5} \) mol
   (E) \( 1 \times 10^{-4} \) mol
# Physics

## One-hour subject test

### Purpose
- Measure understanding of physics at the college-preparatory level

### Format
- 75 multiple-choice questions
- Questions covering topics emphasized in most high school courses (Because of course differences, most students will find that there are some questions on topics with which they are not familiar.)
- Offered at all administrations except March

### Content

#### Questions may require you to:
- Recall and understand the major concepts of physics and to apply these physical principles to solve specific problems
- Understand simple algebraic, trigonometric, and graphical relationships and the concepts of ratio and proportion, and apply these to physics problems

On this Subject Test, please note that:
- Numerical calculations are not emphasized and are limited to simple arithmetic
- Questions predominantly use the metric system
- You should assume that the direction of any current is the direction of flow of positive charge (conventional current)

NOTE: Calculator use is not permitted.

### Recommended Preparation
- One-year introductory physics course on the college-preparatory level
- Laboratory experience—a significant factor in developing reasoning and problem-solving skills—even though this test can only measure lab skills in a limited way, such as data analysis

### Score
- Total score: 200–800 scale

## CONTENT

<table>
<thead>
<tr>
<th>Skills Specification</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall</td>
<td>20–33</td>
</tr>
<tr>
<td>Generally involves remembering and understanding concepts or information</td>
<td></td>
</tr>
<tr>
<td>Single-Concept Problem</td>
<td>40–53</td>
</tr>
<tr>
<td>Recall and use of a single physical relationship</td>
<td></td>
</tr>
<tr>
<td>Multiple-Concept Problem</td>
<td>20–33</td>
</tr>
<tr>
<td>Recall and integration of two or more physical relationships</td>
<td></td>
</tr>
<tr>
<td>Laboratory Skills</td>
<td></td>
</tr>
<tr>
<td>In each of the six major topics below, some questions may deal with laboratory skills in context.</td>
<td></td>
</tr>
</tbody>
</table>

### Topics Covered

#### Mechanics
- Kinematics, such as velocity, acceleration, motion in one dimension, and motion of projectiles
- Dynamics, such as force, Newton’s laws, statics, and friction
- Energy and Momentum, such as potential and kinetic energy, work, power, impulse, and conservation laws
- Circular Motion, such as uniform circular motion and centripetal force
- Simple Harmonic Motion, such as mass on a spring and the pendulum
- Gravity, such as the law of gravitation, orbits, and Kepler’s laws

#### Electricity and Magnetism
- Electric Fields, Forces, and Potentials, such as Coulomb’s law, induced charge, field and potential of groups of point charges, and charged particles in electric fields
- Capacitance, such as parallel-plate capacitors and time-varying behavior in charging/discharging
- Circuit Elements and DC Circuits, such as resistors, light bulbs, series and parallel networks, Ohm’s law, and Joule’s law
- Magnetism, such as permanent magnets, fields caused by currents, particles in magnetic fields, Faraday’s law, and Lenz’s law

#### Waves and Optics
- General Wave Properties, such as wave speed, frequency, wavelength, superposition, standing-wave diffraction, and Doppler effect
- Reflection and Refraction, such as Snell’s law and changes in wavelength and speed
- Ray Optics, such as image formation using pinholes, mirrors, and lenses
- Physical Optics, such as single-slit diffraction, double-slit interference, polarization, and color
Sample Questions

Two types of questions are used in the Physics Subject Test and are shown in the following samples. The directions that follow are identical to those that are in the test. All questions in the test are multiple-choice questions in which you must choose the BEST response from the five choices offered.

Part A

Directions: Each set of lettered choices below refers to the numbered questions immediately following it. Select the one lettered choice that best answers each question and then fill in the corresponding circle on the answer sheet. A choice may be used once, more than once, or not at all in each set.

Questions 1-2

A beam of light is incident on a rectangular opening in the front of a box, as shown in the side view above. The back of the box is open. After passing through the box, the light is incident on a screen. The following devices may be in the box, positioned as shown below.

(A) A convex lens
(B) A concave lens
(C) A thick sheet of glass
(D) An opaque card with a very narrow slit
(E) A prism with vertex pointing downward

1. Which device could produce a tiny spot of light on the screen?

2. Which device could produce a diffraction pattern consisting of a central bright fringe with parallel secondary fringes that decrease in intensity with increasing distance from the center of the screen?
Questions 3-4 relate to a point charge \(+Q\) fixed in position, as shown below. Five points near the charge and in the plane of the page are shown.

3. At which point will the magnitude of the electric field be least?

4. At which point will an electron experience a force directed toward the top of the page?

Part B

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is best in each case and then fill in the corresponding circle on the answer sheet.

5. When a vector of magnitude 6 units is added to a vector of magnitude 8 units, the magnitude of the resultant vector will be
   (A) exactly 2 units
   (B) exactly 10 units
   (C) exactly 14 units
   (D) 0 units, 10 units, or some value between them
   (E) 2 units, 14 units, or some value between them

Questions 7-8

Ocean waves moving toward a beach have a speed of 10 meters per second and a frequency of 2 per second.

7. The wavelength of the waves is most nearly
   (A) 0.2 m
   (B) 0.5 m
   (C) 5 m
   (D) 10 m
   (E) 20 m

8. The waves are observed by a child sitting in a rowboat offshore. Which of the following properties of the waves seen by the child would be greater when the boat is moving away from the beach than when the boat is stationary with respect to the beach?
   I. Speed of the waves with respect to the boat
   II. Frequency at which the boat encounters successive wave crests
   III. Distance between adjacent wave crests
   (A) I only
   (B) III only
   (C) I and II only
   (D) II and III only
   (E) I, II, and III

9. An experiment is performed to measure the specific heat of copper. A lump of copper is heated in an oven, then dropped into a beaker of water. To calculate the specific heat of copper, the experimenter must know or measure the value of all of the quantities below EXCEPT the
   (A) mass of the water
   (B) original temperatures of the copper and the water
   (C) final (equilibrium) temperature of the copper and the water
   (D) time taken to achieve equilibrium after the copper is dropped into the water
   (E) specific heat of the water

6. A 5-kilogram block is suspended by a cord from the ceiling, as shown above. The force exerted on the block by the cord is most nearly
   (A) zero
   (B) 25 N
   (C) 50 N
   (D) 100 N
   (E) 200 N
10. Which of the following graphs best represents the kinetic energy $K$ of an elementary particle as a function of its speed $v$, where $c$ is the speed of light?

(A) \[ K \] 
\[ O \quad c \quad v \]

(B) \[ K \] 
\[ O \quad c \quad v \]

(C) \[ K \] 
\[ O \quad c \quad v \]

(D) \[ K \] 
\[ O \quad c \quad v \]

(E) \[ K \] 
\[ O \quad c \quad v \]

11. In a given process, 12 joules of heat is added to an ideal gas and the gas does 8 joules of work. Which of the following is true about the internal energy of the gas during this process?

(A) It has increased by 20 joules.
(B) It has increased by 4 joules.
(C) It has not changed.
(D) It has decreased by 4 joules.
(E) It has decreased by 20 joules.

12. The graph of position versus time for an object moving along a straight line is given above. During the time shown on the graph, the speed and acceleration of the object will have which of the following characteristics?

<table>
<thead>
<tr>
<th>SPEED</th>
<th>ACCELERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing</td>
<td>Increasing</td>
</tr>
<tr>
<td>Increasing</td>
<td>Constant but not zero</td>
</tr>
<tr>
<td>Constant but not zero</td>
<td>Increasing</td>
</tr>
<tr>
<td>Constant but not zero</td>
<td>Zero</td>
</tr>
<tr>
<td>Zero</td>
<td>Constant but not zero</td>
</tr>
</tbody>
</table>
13. A 4-kilogram disk slides over level ice toward the east at a velocity of 1 meter per second, as shown above. The disk strikes a post and rebounds toward the north at the same speed. The change in the magnitude of the eastward component of the momentum of the disk is

(A) – 4 kg • m/s
(B) – 1 kg • m/s
(C) 0 kg • m/s
(D) 1 kg • m/s
(E) 4 kg • m/s

14. Three energy levels of an atom are shown above. Atoms in the $n = 2$ state can spontaneously emit photons having which of the following energies?

(A) 4 eV only
(B) 7 eV only
(C) 3 eV and 4 eV only
(D) 3 eV and 7 eV only
(E) 3 eV, 4 eV, and 7 eV

15. A box of mass $m$ is released from rest at position 1 on the frictionless curved track shown above. It slides a distance $d$ along the track in time $t$ to reach position 2, dropping a vertical distance $h$. Let $v$ and $a$ be the instantaneous speed and instantaneous acceleration, respectively, of the box at position 2. Which of the following equations is valid for this situation?

(A) $h = vt$
(B) $h = \frac{1}{2}at^2$
(C) $d = \frac{1}{2}at^2$
(D) $v^2 = 2ad$
(E) $mgd = \frac{1}{2}mv^2$

Questions 16-17 relate to the following circuit.

A single resistor $R$ is connected to a battery as shown above. The current is $I$ and the power dissipated as heat is $P$. The circuit is changed by doubling the emf $\mathcal{E}$ of the battery while $R$ is kept constant.

16. After the change, the current is

(A) $\frac{I}{4}$
(B) $\frac{I}{2}$
(C) $I$
(D) $2I$
(E) $4I$

17. After the change, the power dissipated in $R$ is

(A) $\frac{P}{4}$
(B) $\frac{P}{2}$
(C) $P$
(D) $2P$
(E) $4P$
18. Which of the following is true of the magnetic field produced by a current in a long, straight wire?

(A) The field is uniform.
(B) The field increases in strength as the distance from the wire increases.
(C) The field lines are directed parallel to the wire, but opposite to the direction of the current.
(D) The field lines are directed radially outward from the wire.
(E) The field lines form circles about the wire.

19. Which of the following may transmit energy from one point to another?

I. Electromagnetic radiation
II. Sound waves
III. Convection currents

(A) I only
(B) III only
(C) I and II only
(D) II and III only
(E) I, II, and III

20. The Earth has a radius of 6,400 kilometers. A satellite orbits the Earth at a distance of 12,800 kilometers from the center of the Earth. If the weight of the satellite on Earth is 100 kilonewtons, the gravitational force on the satellite in orbit is

(A) 11 kilonewtons
(B) 25 kilonewtons
(C) 50 kilonewtons
(D) 100 kilonewtons
(E) 200 kilonewtons

21. A pendulum of length $\ell$ with a bob of mass $m$ is oscillating with small amplitude. Which of the following changes in the pendulum would double its period?

(A) Doubling the mass $m$ of the bob
(B) Doubling the initial force used to set the pendulum in motion
(C) Doubling the amplitude of the pendulum’s swing
(D) Quadrupling the mass $m$ of the bob
(E) Quadrupling the length $\ell$ of the pendulum

Questions 22-23

A piece of chalk is thrown vertically upward and caught during its descent at the same height from which it was thrown. Position is measured from the location of the chalk when it left the hand. The positive direction for position, velocity, and acceleration is upward.

22. What are the signs of the position, velocity, and acceleration during the ascending part of the trajectory?

<table>
<thead>
<tr>
<th>POSITION</th>
<th>VELOCITY</th>
<th>ACCELERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Positive</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>(B) Negative</td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>(C) Negative</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>(D) Positive</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>(E) Negative</td>
<td>Negative</td>
<td>Negative</td>
</tr>
</tbody>
</table>

23. What are the signs of the position, velocity, and acceleration during the descending part of the trajectory?

<table>
<thead>
<tr>
<th>POSITION</th>
<th>VELOCITY</th>
<th>ACCELERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Positive</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>(B) Positive</td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>(C) Positive</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>(D) Negative</td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>(E) Negative</td>
<td>Negative</td>
<td>Negative</td>
</tr>
</tbody>
</table>

ANSWERS

The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

Chinese with Listening
One-hour subject test

Purpose

- Measure understanding of Mandarin Chinese in the context of contemporary Chinese culture

Format

- 20 minutes of listening and 40 minutes of usage and reading
- 85 multiple-choice questions in three sections
- Only offered in November at designated test centers

CD Player

You must bring an acceptable CD player with earphones. See page 5.

Content

The test evaluates ability in three areas:

**Listening Comprehension:** These questions test the ability to understand the spoken language and are based on short, spoken dialogues and narratives primarily about everyday topics. There are two different kinds of listening comprehension questions: (A) a spoken statement, question, or exchange, followed by a choice of three possible responses (also spoken); (B) a spoken dialogue or monologue with a printed question or questions (in English) about what was said.

**Usage:** These questions ask you to select the answer that best completes a Chinese sentence in a way that is structurally and logically correct. Questions are written to reflect instructional practices of the curriculum. This section of the test is therefore presented in four columns across two pages of the test book to allow each question and its answer choices to be shown in four different ways of representing Chinese: traditional and simplified Chinese characters on the left page, and phonetic transcriptions in Pinyin romanization and the Chinese phonetic alphabet (Bopomofo) on the right page. You should choose the writing form with which you are most familiar and read only from that column.

**Reading Comprehension:** Reading comprehension questions test your understanding of such points as main and supporting ideas, themes, and the setting of passages. Some of the passages are based on real-life materials such as timetables, forms, advertisements, notes, letters, diaries, and newspaper articles. All passages are written in both traditional and simplified Chinese characters. Most questions deal with understanding of literal meaning although some inference questions may be included. All reading comprehension questions are in English.

Recommended Preparation

- Study of Chinese as a second language for two to four years in high school, or the equivalent
- Gradual development of competence in Chinese over a period of years
- Review of sample listening questions using the practice CD available from your school counselor

Score

- Total score: 200–800 scale
- Listening, usage, and reading subscores: 20–80 scale

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills Measured</td>
<td></td>
</tr>
<tr>
<td>Listening comprehension</td>
<td>33</td>
</tr>
<tr>
<td>Usage</td>
<td>33</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>33</td>
</tr>
</tbody>
</table>
Sample Listening Questions

All questions in the test are multiple choice. You must choose the **BEST** response from the three or four choices offered for each question.

When the test is administered, all spoken Chinese will be presented by CD playback. All text appearing here in square brackets [ ] is spoken.

**Part A**

**(Narrator):** [Directions: In this part of the test you will hear short questions, statements, or commands in Mandarin Chinese, followed by three responses in Mandarin Chinese, designated (A), (B), and (C). You will hear the questions or statements, as well as the responses, just one time, and they are not printed in your test booklet. Therefore you must listen very carefully. Select the best response and fill in the corresponding circle on your answer sheet.]

**Question 1**

**(Narrator) [Number 1.**

**(Man)** 今天天氣怎麼樣？

**(Woman)** (A) 我很好，謝謝。

(B) 星期天不行。

(C) 可能會很冷。] (5 seconds)

**Question 2**

**(Narrator) [Number 2.**

**(Man)** 我馬上就要畢業了。

**(Woman)** (A) 恭喜你。

(B) 太客氣。

(C) 也好看。] (5 seconds)

**Question 3**

**(Narrator) [Number 3.**

**(Man)** 這本書貴不貴？

**(Woman)** 不貴，也不便宜。

**(Man)** (A) 多久了？

(B) 多少錢？

(C) 多不多？] (5 seconds)

**Part B**

**(Narrator):** [Directions: You will now hear a series of short selections. You will hear them only once and they are not printed in your test booklet. After each selection, you will be asked to answer one or more questions about what you have just heard. These questions, each with four possible answers, are printed in your test booklet. Select the best answer to each question from among the four choices given and fill in the corresponding circle on your answer sheet. You will have 15 seconds to answer each question.]

**Questions 5-6**

**(Narrator) [Questions 5 and 6. Listen to find out what the woman will do next summer.**

**(Woman)** 你去過香港嗎？

**(Man)** 沒去過，可我明年夏天從日本到中國去的時候會經過香港。

**(Woman)** 明年夏天，我得留在美國上暑期班，哪兒都不能去。

**(Narrator)** Now answer questions 5 and 6. ] (30 seconds)

5. Where will the woman spend the summer next year?

(A) In China  
(B) In Japan  
(C) In Hong Kong  
(D) In the United States

6. What will the woman do?

(A) Visit friends  
(B) Go to school  
(C) Look for a job  
(D) Travel abroad
Question 7

Narrator | Question 7. Listen to find out what the tour guide is telling the group of tourists.

Woman | 請大家注意: 友誼商店到了，現在是十點鐘，不要忘了我們十點鐘在這兒上車，去美術館。

Narrator | Now answer question 7. | (15 seconds)

7. What will the tourists most likely do after the announcement?
   (A) Claim their luggage
   (B) Go shopping
   (C) Call a taxi
   (D) Leave the art museum

Sample Reading Questions

Questions 8-9

老王:

李平刚才打电话来说他病了，
今天不能来上课。请你帮他代课。

小陈

老王:

李平刚才打电话来说他病了，
今天不能来上课。请你帮他代课。

小陈

8. This note tells us that
   (A) Wang is a teacher and Li is a student
   (B) Wang is a teacher and Chen is a student
   (C) Wang and Li are both teachers
   (D) Li and Chen are both students

9. Who called in sick?
   (A) Wang
   (B) Chen
   (C) Lin
   (D) Li

Questions 10-11

亞洲航空公司四月五日宣布，因暑期旅客增多，所以计划增加飛往美國各大城市的班機。將於今年六月十五日至八月二十日之間，每逢星期一、二、四、五、六增加班機往返紐約、香港。每週五次。

亞洲航空公司四月五日宣布，因暑期旅客增多，所以计划增加飛往美國各大城市的班機。將於今年六月十五日至八月二十日之間，每逢星期一、二、四、五、六增加班機往返紐約、香港。每週五次。

10. This advertisement is announcing a temporary offer of
   (A) additional destinations
   (B) lower fares
   (C) special discounts
   (D) additional flights

11. When does this offer become effective?
   (A) August 20
   (B) June 15
   (C) April 5
   (D) February 1
**Sample Usage Questions**

**Directions:** This section consists of a number of incomplete statements, each of which has four possible completions. Select the word or phrase that best completes the sentence structurally and logically and fill in the corresponding circle on your answer sheet.

This section of the test is presented in four columns across two pages to allow each item to be shown in four different ways of representing Chinese: traditional characters, simplified characters, pinyin romanization, and the Chinese phonetic alphabet (Bopomofo). TO SAVE TIME, IT IS RECOMMENDED THAT YOU CHOOSE THE WRITING FORM WITH WHICH YOU ARE MOST FAMILIAR AND **READ ONLY FROM THAT COLUMN AS YOU WORK THROUGH THIS SECTION OF THE TEST.**

<table>
<thead>
<tr>
<th>12. 我很喜欢这部电影。</th>
<th>12. 我很喜欢这部电影。</th>
</tr>
</thead>
<tbody>
<tr>
<td>你 ____?</td>
<td>你 ____?</td>
</tr>
<tr>
<td>(A) 啊</td>
<td>(A) 啊</td>
</tr>
<tr>
<td>(B) 嗯</td>
<td>(B) 嗯</td>
</tr>
<tr>
<td>(C) 吧</td>
<td>(C) 吧</td>
</tr>
<tr>
<td>(D) 呢</td>
<td>(D) 呢</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13. 我从来没吃 ____</th>
<th>13. 我从来没吃 ____</th>
</tr>
</thead>
<tbody>
<tr>
<td>这么好吃的菜。</td>
<td>这么好吃的菜。</td>
</tr>
<tr>
<td>(A) 得</td>
<td>(A) 得</td>
</tr>
<tr>
<td>(B) 过</td>
<td>(B) 过</td>
</tr>
<tr>
<td>(C) 给</td>
<td>(C) 给</td>
</tr>
<tr>
<td>(D) 成</td>
<td>(D) 成</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14. ____ 我哥哥比我大五岁， ____ 我比哥哥高得多。</th>
<th>14. ____ 我哥哥比我大五岁， ____ 我比哥哥高得多。</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) 雖然 ..... 可是</td>
<td>(A) 虽然 ..... 可是</td>
</tr>
<tr>
<td>(B) 因为 ..... 所以</td>
<td>(B) 因为 ..... 所以</td>
</tr>
<tr>
<td>(C) 既然 ..... 就</td>
<td>(C) 既然 ..... 就</td>
</tr>
<tr>
<td>(D) 就是 ..... 也</td>
<td>(D) 就是 ..... 也</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15. 星期天我要在家休息， ____。</th>
<th>15. 星期天我要在家休息， ____。</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) 不去都哪儿</td>
<td>(A) 不去都哪儿</td>
</tr>
<tr>
<td>(B) 都哪儿不去</td>
<td>(B) 都哪儿不去</td>
</tr>
<tr>
<td>(C) 不去哪儿都</td>
<td>(C) 不去哪儿都</td>
</tr>
<tr>
<td>(D) 哪儿都不去</td>
<td>(D) 哪儿都不去</td>
</tr>
</tbody>
</table>
12. Wǒ hěn xǐhuan zhè bù diànyīng.
Nǐ _____ ?
(A) a
(B) ma
(C) ba
(D) ne

13. Wǒ cónglái méi chǐ ____
zhème hǎochí de cài.
(A) de
(B) guo
(C) gěi
(D) chéng

14. ____ wǒ gēge bǐ wǒ dà wǔ suí,
____ wǒ bǐ gēge gāo de duō.
(A) Suírán ..... kěshì
(B) Yǐnweī ..... suǒyǐ
(C) Jirán ..... jiù
(D) Jiùshì ..... yě

15. Xīngqītiān wǒ yào zài jiā xiūxī,
____ .
(A) bù qù dōu nǎr
(B) dōu nǎr bù qù
(C) bù qù nǎr dōu
(D) nǎr dōu bù qù

ANSWERS
The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.
French and French with Listening
One-hour subject tests

Purpose

French Test
- Evaluate reading skills through precision of vocabulary structure, use, and comprehension of a variety of texts

French Test with Listening
- Evaluate reading skills and measure the ability to understand spoken French

Format

French Test
- 85 multiple-choice questions
- Offered at all administrations except November and March

French Test with Listening
- 20 minutes of listening and 40 minutes of reading
- 85–90 multiple-choice listening and reading questions
- Only offered in November at designated test centers

CD Player
You must bring an acceptable CD player with headphones. See page 5.

Content

The tests evaluate reading ability in three areas:

**Precision of Vocabulary:** These questions test knowledge of words representing different parts of speech and some basic idioms within culturally authentic contexts.

**Structure:** These questions measure the ability to select an appropriate word or expression that is grammatically correct within a sentence. One part of the test contains vocabulary and structure questions embedded in longer paragraphs.

**Reading Comprehension:** These questions test understanding of such points as main and supporting ideas, themes, and setting of a passage. Selections are drawn from fiction, essays, historical works, and newspaper articles or everyday materials such as advertisements, timetables, forms, and tickets.

The listening test also measures the ability to understand spoken language with three types of listening questions:

**Type One:** Identify the sentence that most accurately describes what is presented in a picture or photograph.

**Type Two:** Answer general content questions based on short dialogues or monologues.

**Type Three:** Answer more specific questions based on longer dialogues or monologues.

Recommended Preparation

Both tests reflect general trends in high school curricula and are independent of particular textbooks or methods of instruction. Recommended preparation includes:

- 3–4 years study in high school or the equivalent, or
- 2 years of strong preparation
- Gradual development of competence in French over a period of years

French Test with Listening
- Review of sample listening questions using the practice CD available from your school counselor

Score

- Total score: 200–800 scale
- Listening test: reading and listening subscores 20–80 scale

<table>
<thead>
<tr>
<th>FRENCH with LISTENING</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Listening Section (20 minutes)</strong></td>
<td></td>
</tr>
<tr>
<td>Pictures</td>
<td>8–12 questions</td>
</tr>
<tr>
<td>Short dialogues</td>
<td>6–12 questions</td>
</tr>
<tr>
<td>Long dialogues</td>
<td>10–15 questions</td>
</tr>
<tr>
<td><strong>Reading Section (40 minutes)</strong></td>
<td>65</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>16–20 questions</td>
</tr>
<tr>
<td>Structure</td>
<td>16–20 questions</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>20–25 questions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FRENCH</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skills Measured</strong></td>
<td></td>
</tr>
<tr>
<td>Vocabulary in context</td>
<td>30</td>
</tr>
<tr>
<td>Structure</td>
<td>30–40</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>30–40</td>
</tr>
</tbody>
</table>
Sample Reading Questions

Four types of reading questions are used in the French Subject Tests. All questions in the tests are multiple-choice questions in which you must choose the **BEST** response from the four choices offered.

**Part A**

**Directions:** This part consists of a number of incomplete statements, each having four suggested completions. Select the most appropriate completion and fill in the corresponding circle on the answer sheet.

1. Pourquoi es-tu debout si…puisque tu dois te lever de bonne heure?
   - (A) tard
   - (B) loin
   - (C) peu
   - (D) haut

2. Je ne pleure pas! J'ai quelque chose dans…
   - (A) l'oeuvre
   - (B) l'outil
   - (C) l'oreiller
   - (D) l'oeil

3. Les diplomates ont négocié un…entre les deux pays.
   - (A) traitement
   - (B) accord
   - (C) agrément
   - (D) concombre

**Part B**

**Directions:** Each of the following sentences contains a blank. From the four choices given, select the one that can be inserted in the blank to form a grammatically correct sentence and fill in the corresponding circle on the answer sheet. Choice (A) may consist of dashes that indicate that no insertion is required to form a grammatically correct sentence.

4. À cette occasion Jean-Louis a mis ------- plus belle chemise et une jolie cravate neuve.
   - (A) sa
   - (B) son
   - (C) ses
   - (D) sienne

5. Si tu faisais du jogging tous les jours, est-ce que tu te ------- mieux?
   - (A) sentiras
   - (B) sentirais
   - (C) sentais
   - (D) sens

6. Je ne me rappelle plus ce que je ------- quand on m’a interrompu.
   - (A) ferais
   - (B) fasse
   - (C) faisais
   - (D) fais

**Part C**

**Directions:** The paragraphs below contain blank spaces indicating omissions in the text. For some blanks it is necessary to choose the completion that is most appropriate to the meaning of the passage; for other blanks, to choose the one completion that forms a grammatically correct sentence. In some instances, choice (A) may consist of dashes that indicate that no insertion is required to form a grammatically correct sentence. In each case, indicate your answer by filling in the corresponding circle on the answer sheet. Be sure to read the paragraph completely before answering the questions related to it.

Selon _**(8)**_, les Français célèbrent les fêtes de fin d’année en _**(9)**_ un bon nombre d’huîtres et d’autres _**(10)**_ de mer. Ils offrent de petits cadeaux à _**(11)**_ envers qui ils sont _**(12)**_. Et ils envoient des _**(13)**_ de voeux à _**(14)**_ amis et collègues.

8. (A) la coutume
   (B) l’utilisation
   (C) l’habit
   (D) le temps

9. (A) consommant
   (B) consommé
   (C) avoir consommé
   (D) consommer

10. (A) légumes
    (B) fleurs
    (C) poisons
    (D) fruits

11. (A) ceux
    (B) lesquels
    (C) quels
    (D) leurs
Part D

Alors, que dire des contes qu’invente aujourd’hui la publicité? On dénonce l’artifice et les conventions des messages publicitaires. Mais quand on demande à des enfants de choisir entre divers scénarios ou types d’illustration, il faut bien constater que ce sont justement ces conventions, cet artifice qu’ils préfèrent. Les parents s’inquiètent des images de violence physique ou de complaisance sexuelle qu’on peut voir à la télévision, alors que les enfants, au moins jusqu’à la puberté, y sont en général indifférents. En revanche, ils détestent le journal télévisé. Avec son cortège de guerres, de chômage et de grèves, de drames et de catastrophes, il les met mal à l’aise. La publicité, avec son imagerie du bonheur, les rassure.

Et quand les moralistes reprochent aux publicitaires de lier cette idée de bonheur à la possession de biens matériels, ils oublient que les contes de fées non plus n’étaient pas désintéressés. Ce n’est pas le problème des enfants. Cela peut être celui des parents, quand ils s’efforcent de leur apprendre à faire le départ entre le réel et l’imaginaire, entre le désir et sa réalisation.

15. Selon l’article, les effets des scènes de violence et de complaisance sexuelle à la télévision sur les jeunes enfants sont en général
(A) nuisibles  (B) graves
(C) favorables  (D) insignifiants

16. D’après le texte, quelle est la réaction que le journal télévisé provoque chez les enfants?
(A) Il les trouble.  (B) Il les intéresse.
(C) Il les laisse indifférents.  (D) Il les rassure.

17. Quelle est la conclusion de l’article vis-à-vis de la publicité?
(A) La réaction des enfants devant la publicité dépend des parents.
(B) Tous les enfants réagissent différemment à la publicité.
(C) La publicité est salutaire dans le développement de l’enfant.
(D) On a raison de dénoncer les messages publicitaires.

18. Quand on voyage en train, on devrait réserver une table au moment où l’on
(A) achète son billet
(B) commence le voyage
(C) annonce le repas
(D) arrive à destination
Sample Listening Questions

The following three types of questions appear on the French Test with Listening. All questions in this section of the test are multiple-choice questions in which you must choose the BEST response from three or four choices offered. Text in brackets [ ] is recorded on the CD.

Part A

Directions: For each item in this part, you will hear four sentences designated (A), (B), (C), and (D). They will not be printed in your test book. As you listen, look at the picture in your test book and select the choice that BEST reflects what you see in the picture or what someone in the picture might say. Then fill in the corresponding circle on the answer sheet. You will hear the choices only once. Now look at the following example.

You see:

You hear:

[(A) Quelle joie d’être seul!
(B) Que c’est agréable de faire du vélo!
(C) Le moteur fait trop de bruit!
(D) Nous adorons la course à pied.]

Statement (B), “Que c’est agréable de faire du vélo!” best reflects what you see in the picture or what someone in the picture might say. Therefore, you should choose answer (B).

1. You see:

You hear:

[(A) Il y a beaucoup de vagues cet après-midi.
(B) Quel plaisir d’être en forêt!
(C) Faire de la voile est bien agréable.
(D) Les bateaux à rames sont lents et silencieux.]

(7 seconds)

2. You see:

You hear:

[(A) C’est bien, la musique en plein air!
(B) Ces gens écoutent un discours passionnant.
(C) Ces gens se plaignent du bruit.
(D) Cette salle de concert a une bonne acoustique.]

(7 seconds)
Part B

Directions: In this part of the test you will hear several short selections. A tone will announce each new selection. The selections will not be printed in your test booklet, and will be heard only once. At the end of each selection, you will be asked one or two questions about what was said, each followed by three possible answers, (A), (B), and (C). The answers are not printed in your test booklet. You will hear them only once. Select the BEST answer and fill in the corresponding circle on the answer sheet. Now listen to the following example, but do not mark the answer on your answer sheet.

You hear:

[(Tone) (Man B) Papa, ta voiture est chez le garagiste. (Man A) Mais pourquoi? Elle a toujours bien marché. (Man B) Euh, en réalité, j’ai eu un accident. (Man A) Quoi? Tu plaisantes, n’est-ce pas? (Woman A) Qu’est-ce qu’on peut dire de la voiture en question? (A) Elle est en réparation. (B) Elle est sur la route. (C) Elle est chez un ami.]

The best answer to the question, “Qu’est-ce qu’on peut dire de la voiture en question?” is (A), “Elle est en réparation.” Therefore, you should choose answer (A).

Questions 3-4


3. [Numéro 3 (Woman) Qu’est-ce que le monsieur veut faire? (A) Réserver une chambre (B) Acheter un ordinateur (C) Prendre un avion] (7 seconds)

4. [Numéro 4 (Woman) Quand le monsieur va-t-il partir? (A) Immédiatement (B) En semaine (C) Pendant le week-end] (7 seconds)

Questions 5-6

[(Tone) (Man) Pour la quatrième année consécutive, des échanges auront lieu entre des étudiants de Paris et de New York. Environ vingt-cinq étudiants âgés de 15 à 17 ans viendront passer trois semaines dans des familles aux États-Unis. L’été suivant, ce sera le tour des étudiants américains d’être hébergés dans des familles françaises.] (5 seconds)

5. [Numéro 5 (Man B) Quel est le but de cette annonce à la radio? (A) D’encourager le tourisme en été (B) De présenter des renseignements sur Paris (C) De présenter un programme d’échange] (7 seconds)

6. [Numéro 6 (Man B) Combien de temps doit durer ce séjour? (A) Trois semaines (B) Six mois (C) Un an] (7 seconds)
Questions 7-8

[(Tone)]

(Man A) Bon, c’est d'accord. Nous allons d’abord voir un film, puis retrouver Anne et Sophie au café de la gare. On se rencontre à dix-neuf heures devant le cinéma, entendu?

(Man B) C’est ça. À ce soir.]

7. [Numéro 7

(Woman) Qu'est-ce que les deux amis vont faire ensemble?

(A) Prendre le train
(B) Aller au cinéma
(C) Écouter des disques]

8. [Numéro 8

(Woman) Où les amis vont-ils rencontrer Anne et Sophie?

(A) Chez elles
(B) Dans un café
(C) Au théâtre]

Part C

Directions: You will now hear some extended dialogues or monologues. You will hear each only once. After each dialogue or monologue, you will be asked several questions about what you have just heard. These questions are also printed in your test book. Select the best answer to each question from among the four choices printed in your test book and fill in the corresponding circle on the answer sheet. There is no sample question for this part.

Questions 9-11

You will hear:

[(Man A) Dialogue numéro 1. Éric, jeune étudiant demeurant à Paris, parle de ses activités. Alors, dis-moi ce que tu fais.

(Woman) Je suis chanteur dans deux groupes, un de Rythme & Blues, et un autre groupe, un groupe de rock.

(Woman) Et vous répétez souvent?

(Man B) Pour le groupe de Rythme & Blues, nous ne répétons pas souvent; nous avons répété pendant huit mois et donc nous connaissons assez bien le répertoire et je ne fais pas tous les concerts avec eux, donc ce n'est pas la peine.

(Woman) Et comment s'appelle ce groupe?

(Man B) Ce groupe s'appelle Les Steady Holy Men.

(Woman) Et l'autre groupe?

(Man B) C'est un groupe de rock qui s'appelle Riffraff et là, on vient de commencer il y a deux mois, un peu plus peut-être, et nous répétons, une fois par semaine au moins, quelquefois deux fois par semaine, pendant trois ou quatre heures.

(Woman) Et vous répétez où?

(Man B) Nous répétons dans un local de répétitions. Il y en a plusieurs sur Paris où on peut payer à l'heure pour répéter dans un studio. Tout est équipé.

(Woman) Bien, et vous jouez où, en général?

(Man B) Nous jouons dans des bars, dans des clubs, dans des bistrots, dans des caves.]

9. [Numéro 9

(Woman) Au cours de cette conversation, qu’est-ce que nous apprenons sur le jeune Éric?

(A) Il est chanteur.
(B) Il a terminé ses études.
(C) Il est acteur.
(D) Il veut apprendre le français.

Au cours de cette conversation, qu’est-ce que nous apprenons sur le jeune Éric?

(A) Il est chanteur.
(B) Il a terminé ses études.
(C) Il est acteur.
(D) Il veut apprendre le français.]

(12 seconds)
10. [Numéro 10
(Woman B) Pourquoi les membres du groupe Rythme & Blues ne répètent-ils pas souvent?]

Pourquoi les membres du groupe Rythme & Blues ne répètent-ils pas souvent?
(A) Parce qu’ils connaissent bien les chansons
(B) Parce qu’ils aiment improviser
(C) Parce qu’ils s’intéressent à d’autres concerts
(D) Parce qu’ils jouent rarement en public

(12 seconds)

11. [Numéro 11
(Woman B) Où Éric donne-t-il des concerts?]

Où Éric donne-t-il des concerts?
(A) Dans des restaurants
(B) Dans des jardins
(C) Dans des clubs
(D) Dans des théâtres

(12 seconds)

<table>
<thead>
<tr>
<th>ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.</td>
</tr>
</tbody>
</table>

### Reading Questions

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>A (2)</td>
<td>9.</td>
<td>A (2)</td>
<td>14.</td>
</tr>
<tr>
<td>5.</td>
<td>B (3)</td>
<td>10.</td>
<td>D (2)</td>
<td>15.</td>
</tr>
</tbody>
</table>

### Listening Questions

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>D (4)</td>
<td>4.</td>
<td>B (2)</td>
<td>7.</td>
</tr>
<tr>
<td>2.</td>
<td>A (3)</td>
<td>5.</td>
<td>C (2)</td>
<td>8.</td>
</tr>
<tr>
<td>3.</td>
<td>C (2)</td>
<td>6.</td>
<td>A (3)</td>
<td>9.</td>
</tr>
</tbody>
</table>
German and German with Listening
One-hour subject tests

Purpose

German Test
- Measure the ability to understand written German

German Test with Listening
- Measure the ability to understand written and spoken German

Format

German Test
- 80–85 multiple-choice questions
- Only offered in June

German Test with Listening
- 20 minutes listening and 40 minutes of usage and reading
- 85–90 multiple-choice listening and reading questions
- Listening questions that require answers to questions based on shorter and longer listening selections
- Only offered in November at designated test centers

CD Player
You must bring an acceptable CD player with earphones. See page 5.

Content

Both tests comply with the German spelling reform (Rechtschreibreform) as much as possible. The tests evaluate reading ability in these areas:

Sentence Completion and Paragraph Completion: These questions test vocabulary and grammar requiring you to know the meaning of words and idiomatic expressions in context and to identify usage that is structurally correct and appropriate. For each omission, you must select the choice that BEST fits each sentence.

Reading Comprehension: These questions test understanding of the content of various materials taken from sources such as advertisements, timetables, street signs, forms, and tickets. They also examine your ability to read passages representative of various styles and levels of difficulty. There are several prose passages followed by questions that test your understanding of the passages. The passages, mostly adapted from literary sources and newspapers or magazines, are generally one or two paragraphs in length and test whether you can identify the main idea or comprehend facts or details in the text.

The listening test also measures the ability to understand spoken language with two types of listening questions:

Type One: Contains short dialogues/monologues with one or two multiple-choice questions. Dialogues/monologues, questions, and answer choices are recorded. Questions are also printed in the test book.

Type Two: Contains longer dialogues and monologues with several multiple-choice questions. Dialogues/monologues and questions are only recorded and not printed in the test book. Answer choices are not recorded; they appear only in the test book.

Recommended Preparation

Both tests reflect general trends in high school curricula and are independent of particular textbooks or methods of instruction. Recommended preparation includes:

- 2–4 years of study in high school or the equivalent
- Gradual development of competence in German over a period of years

German Test with Listening
- Review of sample listening questions using the practice CD available from your school counselor

Score

- Total score: 200–800 scale
- Listening test: reading and listening subscores 20–80 scale
GERMAN

Skills Measured
Vocabulary in context and Structure in context (grammar)
Reading comprehension

GERMAN with LISTENING

Listening Section (20 minutes) 35
Short dialogues/monologues
Long dialogues/monologues

Reading Section (40 minutes) 65
Vocabulary in context
Structure in context (grammar)
Reading comprehension using authentic stimulus materials and passages

Approximate % of Test

Sample Reading Questions

Several types of questions are used in the German Subject Test. All questions in the test are multiple-choice questions in which you must choose the BEST response from the four choices offered.

Part A

Directions: This part consists of a number of incomplete statements, each having four suggested completions. Select the most appropriate completion and fill in the corresponding circle on the answer sheet.

1. Der Präsident hat gestern Abend eine . . . gehalten.
   (A) Rede (B) Sprache (C) Nachricht (D) Erklärung

2. Sie tut nur, was ihr Spaß . . .
   (A) gibt (B) schenkt (C) macht (D) bringt

3. Der nächste Bus . . . um zehn Uhr ab.
   (A) fahrt (B) fahr (C) fahre (D) fährt

Part B

Directions: In the following paragraph, there are numbered blanks indicating that words or phrases have been omitted. For each numbered blank, four completions are provided. First read through the entire paragraph. Then, for each numbered blank, choose the completion that is most appropriate and fill in the corresponding circle on the answer sheet.

Verspätung

Solange ich ihn -------, ist er immer pünktlich -------; ich

5. (A) weiß 6. (A) gewesen
   (B) kenne (B) worden
   (C) verstehe (C) geworden
   (D) kann (D) gewusst

verstehe ------- nicht, warum er uns

verblassen hat.

7. (A) damit (B) dadurch (C) darin (D) deshalb

8. (A) Loch (B) Vergessen (C) Stich (D) Mangel

Part C

Directions: Read the following texts carefully for comprehension. Each is followed by a number of questions or incomplete statements. Select the answer or completion that is best according to the text and fill in the corresponding circle on the answer sheet.

4. Wissen Sie, . . . dieser Hund gehört?
   (A) wer (B) wo (C) wessen (D) wem
Weltstadt-Wochenende zu zweit zu gewinnen!
• An einem Freitag anreisen und bis Sonntag bleiben • Im erstklassigen Hotel verwöhnt werden • Weltstadt-Programm erleben • Das alles auf unsere Kosten •

_________________________________________
_________________________________________
_________________________________________

Name: 
Straße: 
Ort: 

Viel Glück!

9. Was könnte man mit diesem Schein gewinnen?
   (A) Ein bezahltes Wochenende
   (B) Einen Urlaub am Meer
   (C) Ein tolles Auto
   (D) Ein super Hotel

Questions 10-11

10. Wofür macht man hier Reklame?
    (A) Moderne Rockstars
    (B) Neue Stereooanlagen
    (C) Preiswerte CD-Spieler
    (D) Eine Musikzeitschrift

11. Worüber gibt das Magazin wohl Auskunft?
    (A) Neues über Computer
    (B) Kunstausstellungen
    (C) Neues aus Rock und Pop
    (D) Modische Kleidung

Questions 12-14

12. Es gibt viele Beweise dafür, dass Herzinfarkte bei Menschen nicht so häufig auftreten, wenn sie
    (A) zu viel essen
    (B) fit bleiben
    (C) Bewegung vermeiden
    (D) Tierversuche machen

13. Der Verfasser des Berichtes macht es klar, dass
    (A) die Vergleichsgruppe kein Verhältnis zur Versuchsgruppe hat
    (B) Bewegung der menschlichen Gesundheit nur schaden kann
    (C) das Experiment wiederholt werden muss
    (D) der Puls nie beschleunigt werden kann

14. In diesem Artikel geht es in erster Linie um eine Frage
    (A) des Sporttrainings
    (B) der Ernährung
    (C) der Labormethoden
    (D) der Gesundheit
Sample Listening Questions

In the German Test with Listening, the following two types of listening questions will appear in addition to the reading questions discussed previously. In the actual test, the listening section will come first. All questions in this part of the test are multiple-choice questions in which you must choose the BEST response from the four choices offered.

Text in brackets [ ] is only recorded and not printed in your test book.

Part A

Directions: In this part of the test you will hear several selections. They will not be printed in your test book. You will hear them only once. Therefore, you must listen very carefully. In your test book you will read one or two short questions about what was said. Another speaker will read the questions for you. Each question will be followed by four choices marked (A), (B), (C), and (D). The choices are not printed in your test book. You will hear them once. Select the best answer and fill in the corresponding circle on your answer sheet.

15. [Question 15 refers to the following exchange.]
   (Narrator) [Hmmm, das riecht gut. Was gibt’s denn heute Abend zu essen?]
   (Man B) [Für dich nichts, Klaus, weil du immer so spät nach Hause kommst.]
   (Man A) [Entschuldige, Rainer. Aber das war nicht meine Schuld—heute. Die Chefin gab mir in der letzten Minute noch viel zu tun.]
   (Man) [Was gefällt Rainer nicht?] Was gefällt Rainer nicht?
   (A) Klaus kommt spät.
   (B) Die Chefin arbeitet viel.
   (C) Klaus hat gegessen.
   (D) Es riecht so gut.

16. [Questions 16 and 17 refer to the following exchange.]
   (Narrator) [Herr Lenz, es ist schon 6.00 Uhr, und Sie sitzen immer noch am Schreibtisch!]
   (Man A) [Ich fahre doch morgen in Urlaub und wollte keine Arbeit liegen lassen.]
   (Man B) [Lassen Sie mal. Am Montag bekomme ich eine Hilfskraft. Gehen Sie nach Hause und packen Sie.]
   (Man) [Warum sitzt Herr Lenz noch am Schreibtisch?] Warum sitzt Herr Lenz noch am Schreibtisch?
   (A) Er telefoniert.
   (B) Er packt ein.
   (C) Er arbeitet.
   (D) Er fährt heim.]

17. [Questions 16 and 17 refer to the following exchange.]
   (Narrator) [Herr Lenz, es ist schon 6.00 Uhr, und Sie sitzen immer noch am Schreibtisch!]
   (Man A) [Ich fahre doch morgen in Urlaub und wollte keine Arbeit liegen lassen.]
   (Man B) [Lassen Sie mal. Am Montag bekomme ich eine Hilfskraft. Gehen Sie nach Hause und packen Sie.]
   (Man) [Warum sitzt Herr Lenz noch am Schreibtisch?] Warum sitzt Herr Lenz noch am Schreibtisch?
   (A) Er telefoniert.
   (B) Er packt ein.
   (C) Er arbeitet.
   (D) Er fährt heim.]

Part B

Directions: You will now listen to some extended dialogues or monologues. You will hear each only once. After each dialogue or monologue, you will be asked several questions about what you have just heard. These questions are not printed in your test book. From the four printed choices, select the best answer to each question and fill in the corresponding circle on the answer sheet. There is no sample question for this part.

Questions 18-21

18. (Narrator) [You will hear a telephone conversation about a car deal.] (Telephone rings)
   (Woman) [Hallo—Müller hier.]
   (Man) [Ich habe in der „Morgenpost“ gelesen, dass Sie ein Auto zu
verkaufen haben. Können Sie mir etwas über den Wagen sagen?

(Woman) Ja, der Wagen ist drei Jahre alt, hat ungefähr 45 000 km und ein Schiebedach. Er ist in gutem Zustand. Er steht immer nachts in der Garage, und ich hatte noch nie einen Unfall damit.

(Man) Wann war der Wagen das letzte Mal zur Inspektion beim TÜV?

(Woman) Ende letzten Jahres.

(Man) Gibt es irgendwelche Probleme mit dem Wagen?

(Woman) Vor einigen Monaten ließ sich die Tür auf der Fahrerseite nicht schließen. Wir haben sie aber reparieren lassen.

(Man) Ich habe gegen 17.00 Uhr Feierabend, kann ich dann vorbeikommen?

(Woman) Ja, ich wohne Holunderweg 7.

(Man) Ach, da sind wir ja beinahe Nachbarn. Ich werde kurz nach 18.00 Uhr bei Ihnen sein.

(Woman) Gut dann: Auf Wiedersehen.

18. (Man) [Woher weiß der Mann, dass die Frau ein Auto zu verkaufen hat?]

(A) Er hat es in der Zeitung gelesen.
(B) Sie hat einen Brief an ihn geschrieben.
(C) Seine Autowerkstatt hat es ihm gesagt.
(D) Die Nachbarn haben es ihm erzählt.

19. (Man) [Warum war das Auto so gut wie neu?]

(A) Weil es gerade aus der Werkstatt kam.
(B) Weil es zur Inspektion muss.
(C) Weil es nachts nicht auf der Straße steht.
(D) Weil es über 45 000 km drauf hat.

20. (Man) [Wann wird sich der Mann den Wagen ansehen?]

(A) Kurz vor Feierabend.
(B) Nach der Arbeit.
(C) Am Morgen.
(D) Am Wochenende.

21. (Man) [Warum ist das Auto so gut wie neu?]

(A) Weil es gerade aus der Werkstatt kam.
(B) Weil es zur Inspektion muss.
(C) Weil es nachts nicht auf der Straße steht.
(D) Weil es über 45 000 km drauf hat.
Modern Hebrew
One-hour subject test

Purpose
- Measure competence in modern Hebrew

Format
- 85 multiple-choice questions
- Only offered in June

Content
The test evaluates reading ability in three areas:

Vocabulary: These types of questions test knowledge of words representing different parts of speech and some basic idioms within culturally authentic contexts.

Structure: This kind of question tests grammar, including parts of speech as well as your ability to recognize appropriate language patterns.

Reading Comprehension: Reading comprehension questions test your understanding of passages of varying levels of difficulty. These passages, most of which are vocalized, are generally adapted from literary sources and newspaper or magazine articles. Authentic material such as advertisements has been added to the test. While some passages have biblical references, no material in the test is written in biblical Hebrew.

Recommended Preparation
The Modern Hebrew Test allows for variation in language preparation. It is independent of particular textbooks or methods of instruction. Recommended preparation includes:

- 2–4 years of Hebrew language study in high school or the equivalent
- Gradual development of competence in Hebrew over a period of years

Score
- Total score: 200–800 scale

Sample Questions
Three types of questions are used in the Modern Hebrew Subject Test. All questions in the test are multiple-choice and require you to choose the BEST response from the four choices offered.

Part A
Directions: This part consists of a number of incomplete statements, each having four suggested completions. Select the most appropriate completion and fill in the corresponding circle on the answer sheet.

1. ארית ________, אקט לֵין יִבְדֹל לִלְכָה.
(A) שבת (B) משה (C) מתכלה (D) מתכלה

2. לבינ שלל ________ אַלּ קְנַה.
(A) קְפָרָה (B) מְשָׁרָה (C) אָסָרָה (D) אֵילָה

3. אהו ________, כְּסִיָּר מַפְסִלֵּן עַע תַבְרָה.
(A) נַשָּׁמְרָה (B) מַפְסָרָה (C) אָסָרָה (D) אָסָרָה

4. בַּמָּעָת מַפְסִלֵּן-תַּבְרָה ________ אַלִּית.
(A) בַּמָּעָת (B) בַּמָּעָת (C) בַּמָּעָת (D) בַּמָּעָת

5. לֵרוֹמִי תַּבְרָה ________ רוֹבֶּה.
(A) קְפָר (B) קְפָר (C) קְפָר (D) קְפָר

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills Measured</td>
<td></td>
</tr>
<tr>
<td>Vocabulary in context</td>
<td>30</td>
</tr>
<tr>
<td>Structure in context (grammar)</td>
<td>30</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>40</td>
</tr>
</tbody>
</table>
Part B

Directions: In each of the following paragraphs there are numbered blanks indicating that words or phrases have been omitted. For each numbered blank, four completions are provided. First read through the entire paragraph. Then, for each numbered blank, choose the completion that is most appropriate and fill in the corresponding circle on the answer sheet.

Part C

Directions: Read the following passages carefully for comprehension. Each is followed by a number of questions or incomplete statements. Select the answer or completion that is best according to the passage and fill in the corresponding circle on the answer sheet.
The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

5. B (5)  10. A (2)  15. B (1)  20. B (3)
Italian
One-hour subject test

Purpose
- Measure the ability to understand written Italian

Format
- 80–85 multiple-choice questions
- Only offered in December

Content
The test questions range in difficulty from elementary through advanced, although most questions are at the intermediate level. The test evaluates reading ability in three areas:

Sentence Completion: These questions test your knowledge of high-frequency vocabulary and appropriate idiomatic expressions in the context of paragraphs.

Structure: These questions test your familiarity with the language structure.

Reading Comprehension: Reading comprehension questions test your understanding of the content of various selections taken from sources such as newspaper and magazine articles, fiction, historical works, advertisements, tickets, brochures, forms, and schedules. Commonly taught grammatical constructions are tested, and all questions reflect current standard Italian.

Recommended Preparation
The Italian Subject Test allows for variation in language preparation. It is independent of particular textbooks or methods of instruction. Recommended preparation includes:

- 2–4 years of Italian language study in high school or the equivalent
- Gradual development of competence in Italian over a period of years

Score
- Total score: 200–800 scale

### Sample Questions

Three types of questions are used in the Italian Subject Test. All questions in the test are multiple-choice questions in which you must choose the **BEST** response from the four choices offered.

#### Part A

**Directions:** In each of the following passages there are numbered blanks indicating that words or phrases have been omitted. For each numbered blank, four completions are provided. First read through the entire passage. Then, for each numbered blank, choose the completion that is most appropriate given the context of the entire passage and fill in the corresponding circle on the answer sheet.

Un paio di blue-jeans

Ho portato blue-jeans sin da quando se ne portavano pochissimi e comunque solo in vacanza. Li trovavo e li trovo molto **(1)** specie in viaggio perché non ci sono problemi di piega. Oggi si portano anche per bellezza, ma sono prima di tutto molto **(2)**. Solo che da parecchi anni avevo dovuto **(3)** a questo piacere, perchè ero ingrassato.

Recentemente, ho perso quel numero di **(4)** sufficiente per riprovare un blue-jeans quasi normale. Ho provato una dozzina di blue-jeans ed ogni **(5)** la commessa del negozio mi diceva: “Stringa, vedrà che poi si **(6)**”. Finalmente ne ho trovato uno e sono partito, senza dover tirare indietro la pancia.

1. (A) colorati (B) costosi (C) comodi (D) stretti
2. (A) utili (B) difficili (C) vecchi (D) strani
3. (A) rinunciare (B) rassegnarmi (C) consentire (D) attenermi

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills Measured</td>
<td></td>
</tr>
<tr>
<td>Vocabulary in context</td>
<td>30</td>
</tr>
<tr>
<td>Structure in blank</td>
<td>30</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>40</td>
</tr>
</tbody>
</table>
Part B

Directions: In each sentence or dialogue below you will find a blank space indicating that a word or phrase has been omitted. Following each sentence are four completions. Of the four choices, select the one that best completes the sentence structurally and logically and fill in the corresponding circle on the answer sheet. In some instances, choice (A) may consist of dashes; by choosing this option, you are indicating that no insertion is required to form a grammatically correct sentence.

7. Che -------- sconti!
   (A) belli (B) begli
   (C) belle (D) bei

8. Ti piacciono queste camicie? -------- ho comprate per Gianna.
   (A) Le (B) La
   (C) Gli (D) Li

9. Se -------- più denaro, comprerei anche quella gonna di lana.
   (A) avrei (B) avevo
   (C) avrò (D) avessi

Part C

Questions 10-11

10. Cebion è
    (A) un codice (B) una medicina
        (C) un’avvertenza (D) un cibo

11. Questo prodotto si deve usare
    (A) ogni giorno (B) con la vitamina C
        (C) prima dei pasti (D) con cura

Questions 12-15

Cari lettori,

Gli scioperi dei treni hanno causato in questi giorni non pochi problemi. Ogni mattina mi sono alzato tendendo l’orecchio ai giornali radio, pronto ad adeguarmi ad ogni nuova circostanza, a muovermi in macchina (nebbia permettendo) o in aereo (scioperi, anche qui, permettendo). Ma non voglio lamentarmi degli scioperi. Anch’io sono un lavoratore dipendente e so che è giusto farli, quando occorrono, salvo tutelare i diritti degli utenti. Quanto ai treni (ahimè!) lo sciopero non mi ha sconvolto più di tanto. So di non poter contare sulle nostre ferrovie al cento per cento, so che i ritardi, soprattutto su certe linee, sono piuttosto frequenti. Parlo per esperienza. Io ho molti parenti in Emilia e spesso ricevo le loro visite. Una volta andavo alla Stazione Centrale ad aspettarli. Ora, da almeno dieci anni, non lo faccio più, per non passare ore a vuoto in attesa di treni che non sono mai puntuali. Pazienza! Bisogna accettare ciò che passa il convento e rassegnarsi. Riuscirà la nuova linea che accorcerà le distanze tra Milano e Roma a risolvere la situazione? Me lo auguro.

E.F.
12. Chi scrive questa lettera?
   (A) Il padrone di una ditta
   (B) Un controllore
   (C) Un impiegato
   (D) Un disoccupato

13. Cosa pensa degli scioperi l’autore della lettera?
   (A) Che sono illegali
   (B) Che sono qualche volta giustificati
   (C) Che dovrebbero essere aboliti
   (D) Che sono sempre utili

14. L’autore considera lo sciopero dei treni con
   (A) allegria    (B) incomprensione
   (C) rabbia      (D) rassegnazione

15. Dieci anni fa, E.F. ha deciso di
   (A) non aspettare più alla stazione
   (B) lamentarsi degli scioperi
   (C) non dare appoggio ai lavoratori
   (D) non ascoltare la radio la mattina

ANSWERS

The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

3.  A (4)  7.  B (2)  11.  D (2)  15.  A (1)  
4.  C (5)  8.  A (2)  12.  C (2)  

Italian  61
Japanese with Listening
One-hour subject test

**Purpose**
- Measure the ability to communicate in Japanese in a culturally appropriate way

**Format**
- 20 minutes listening and 40 minutes of usage and reading
- 80–85 multiple-choice questions
- Only offered in November at designated test centers

**CD Player**
You must bring an acceptable CD player with earphones. See page 5.

**Content**
The test evaluates ability in three areas:

**Listening comprehension:** These questions are based on short, spoken dialogues and narratives primarily about everyday topics. A brief explanation about each selection and the questions are given in English. Explanations are also printed in the test book.

**Usage:** These questions require you to complete Japanese sentences in a way that is appropriate in terms of structure (grammar), vocabulary, and context. Usage questions are printed in three different ways of representing Japanese. In the center column, the Japanese is represented in standard Japanese script and all *kanji* are supplied with *furigana*. In the other two columns, the Japanese is written in the two most common types of romanization (*romaji*). To the left, a modified Hepburn system is used. In that system, the Japanese word for “bicycle” is written as *jitensha*. In the right-hand column, a modified *kunrei-shiki* is used. In that system, the same Japanese word for “bicycle” is written as *zitensya*. You should choose the writing system you are familiar with and read only from that column on the test.

**Reading comprehension:** The reading comprehension questions are in English and test your understanding of such points as main and supporting ideas. The selections in this section are taken from materials you might encounter in everyday situations, such as notes, menus, newspaper articles, advertisements, and letters. The text is written in *hiragana*, *katakana*, and *kanji* without *furigana*.

**Recommended Preparation**
- Study of Japanese for two to four years in high school, or the equivalent
- Gradual development of competence in Japanese over a period of years
- Review of sample listening questions using the practice CD available from your school counselor

**Score**
- Total score: 200–800 scale
- Listening, usage, and reading subscores: 20–80 scale

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skills Measured</strong></td>
<td></td>
</tr>
<tr>
<td>Listening comprehension</td>
<td>35</td>
</tr>
<tr>
<td>Usage</td>
<td>30</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>35</td>
</tr>
</tbody>
</table>
Sample Listening Questions

All questions in the test are multiple-choice. You must choose the **BEST** response from the four choices offered.

**(Narrator)** [This is a sample CD for the Japanese Test with Listening.]

**Directions:** In this section of the test you will hear short dialogues and monologues. You will hear them only once and they are not printed in your test booklet. At the end of each selection, you will be asked questions about what was said. Now listen to the following example, but do not mark the answer on your answer sheet.]

**Question 1**

**(Narrator)** [Listen to this short exchange in a stationery store.]

(Woman) 「これ3冊下さい。」

(Man) 「3冊ですね？はい、1200円です。」

**(Narrator)** Question 1. What did the woman buy? (16 seconds)

1. (A) Pens
   (B) Notebooks
   (C) Erasers
   (D) Colored paper

**Question 2**

**(Narrator)** [Listen to this short conversation between two acquaintances.]

(Man) 「今日も車で来ましたか。」

(Woman) 「いいえ、いつも車で来るんですけど、今日はバスできました。」

**(Narrator)** Question 2. How did the woman get there today? (16 seconds)

2. (A) By bus
   (B) By car
   (C) By train
   (D) On foot

**Question 3**

**(Narrator)** [Now listen to the message on Mr. Nakamura's answering machine in his office.]

(Man) あ、もしもし中村さん。こちらはABCテレビの川上です。今晩会社の方にお電話下さいませんか。では、よろしくお願いいたします。]

**(Narrator)** Question 3. When is Mr. Nakamura expected to call? (16 seconds)

3. (A) This morning
   (B) Tonight
   (C) Tomorrow morning
   (D) Tomorrow night

**Question 4**

**(Narrator)** [Listen to this conversation at the woman's home. Then answer question 4.]

(Woman) 「もう一杯いかがですか。」

(Man) 「いえ、結構です。」

(Woman) 「まあ、そうおっしゃらないで、小さいコップですから。」

(Man) 「そうですか。じゃあ、少し頂きます。」

**(Narrator)** Question 4. What most likely is the man's relationship to the woman? (16 seconds)

4. (A) He is her guest
   (B) He is her husband
   (C) He is her son
   (D) He is her close friend
Sample Usage Questions

**Directions**: This section consists of a number of incomplete statements, each of which has four suggested completions. In some instances, choice (A) may consist of dashes that indicate that no insertion is required to form a correct sentence. Select the word or phrase that best completes the sentence structurally and logically and fill in the corresponding circle on the answer sheet.

This section of the test is presented in three columns that provide identical information. Look at the example below and choose the one column of writing with which you are most familiar in order to answer the question. Do not waste time by switching from column to column in this section.

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Kono hon wa omoshiroku</td>
<td>5. この本はおもしろく</td>
<td>5. Kono hoん wa omosiroku</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>(A) ja nai desu</td>
<td>(A) じゃないです</td>
<td>(A) zya nai desu</td>
</tr>
<tr>
<td>(B) ni narimasu</td>
<td>(B) になります</td>
<td>(B) ni narimasu</td>
</tr>
<tr>
<td>(C) ni shimashita</td>
<td>(C) にしました</td>
<td>(C) ni simasita</td>
</tr>
<tr>
<td>(D) arimasen</td>
<td>(D) ありません</td>
<td>(D) arimaseñ</td>
</tr>
<tr>
<td>6. ------- narimashita.</td>
<td>6. ------- なりました。</td>
<td>6. ------- narimasita.</td>
</tr>
<tr>
<td>(A) kirei</td>
<td>(A) きれい</td>
<td>(A) kiree</td>
</tr>
<tr>
<td>(B) osoku</td>
<td>(B) 迅く</td>
<td>(B) osoku</td>
</tr>
<tr>
<td>(C) genki na</td>
<td>(C) 元気な</td>
<td>(C) geñki na</td>
</tr>
<tr>
<td>(D) benri</td>
<td>(D) 便利</td>
<td>(D) beñri</td>
</tr>
<tr>
<td>(A) -------</td>
<td>(A) -------</td>
<td>(A) -------</td>
</tr>
<tr>
<td>(B) na</td>
<td>(B) な</td>
<td>(B) na</td>
</tr>
<tr>
<td>(C) no</td>
<td>(C) の</td>
<td>(C) no</td>
</tr>
<tr>
<td>(D) ni</td>
<td>(D) に</td>
<td>(D) ni</td>
</tr>
</tbody>
</table>
Sample Reading Questions

Directions: Read the following texts carefully for comprehension. Each text is followed by one or more questions or incomplete statements based on its content. Select the answer or completion that is best according to the text and fill in the corresponding circle on the answer sheet. There is no example for this section.

Questions 8-9

This is a notice on a telephone pole.

8. The writer wants to
   (A) find a lost cat
   (B) give away a cat
   (C) find the owner of a cat
   (D) sell a cat

9. The description says the cat is
   (A) brown
   (B) green-eyed
   (C) long-haired
   (D) young

Question 10

Ryan's host mother left a note for him.

ライアンくん、
明日、朝早いから先におきます。晩ごはんは電子レンジで
温めてください。明日のハイキングですから、7時半までに
起きてください。ジーンズは洗っておきました。

10. What is Ryan to do by seven thirty?
    (A) Get up
    (B) Eat
    (C) Go out
    (D) Go to bed

ANSWERS

The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

Korean with Listening
One-hour subject test

Purpose

- Measure understanding of Korean and ability to engage in purposeful communication in the context of contemporary Korean culture

Format

- 20 minutes listening and 40 minutes of usage and reading
- 80–85 multiple-choice questions
- Only offered in November at designated test centers

CD Player
You must bring an acceptable CD player with earphones. See page 5.

Content

The test evaluates ability in three areas:

**Listening comprehension:** These questions test your ability to understand the spoken language. They are based on short, spoken Korean dialogues and narratives primarily about everyday topics. All listening questions and possible answers are in English. The questions will be spoken on a CD. They will also be printed in the test book.

**Usage:** These questions are written entirely in Hangul and require students to complete Korean sentences or phrases so that they are structurally and logically correct. Areas covered include vocabulary, honorifics, and various aspects of structure.

**Reading comprehension:** The reading comprehension questions test your understanding of such points as main and supporting ideas. All passages in this section are written in Hangul and all questions are in English. Most questions deal with understanding literal meaning, although some inference questions may be included. The Korean selections are drawn from authentic materials, such as notes, diaries, newspaper articles, advertisements, letters, and literary texts.

Recommended Preparation

- Study of Korean for two to four years in high school, or the equivalent
- Gradual development of competence in Korean over a period of years
- Review of sample listening questions using the practice CD available from your school counselor

Score

- Total score: 200–800 scale
- Listening, usage, and reading subscores: 20–80 scale

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening comprehension</td>
<td>35</td>
</tr>
<tr>
<td>Usage</td>
<td>30</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>35</td>
</tr>
</tbody>
</table>

Sample Listening Questions

Directions: In this part of the test you will hear several spoken selections. They will not be printed in your test book. You will hear them only once. After each selection you will be asked one or more questions about what you have just heard. These questions, with four possible answers, are printed in your test booklet. Select the best answer to each question from among the four choices printed and fill in the corresponding circle on your answer sheet. Now listen to the first selection.

(Narrator) [Listen to the following conversation. Then answer questions 1 and 2.]

(Woman) [한수야, 어제 전화했는데, 너 어디 갔었니?
(Man) 어제 우리 형이 동부에서 와서 공항에 마중 나갔었어.
(Woman) 너, 형이 동부에 살아?
(Man) 응, 대학교도 거기서 다녔는데, 지금은 졸업하고 회사에 다녀.
(Woman) 좋겠다. 형이 와서, 여기 얼마나 있을 거야?
(Man) 오래 있으면 좋을 텐데, 휴가가 사흘밖에 없네.]
(Narrator)  [ Question 1. Where did Hansu go yesterday? ] (16 seconds)

1. (A) To his brother’s office.
(B) To his brother’s house.
(C) To the airport.
(D) To a graduation ceremony.

(Narrator)  [ Question 2. Choose the correct statement based on the conversation you have just heard. ] (16 seconds)

2. (A) Hansu’s brother is moving in with Hansu.
(B) Hansu’s brother has a four-day vacation.
(C) Hansu’s brother works on the West Coast.
(D) Hansu’s brother went to college on the East Coast.

(Narrator)  [ Listen to the following announcement. Then answer question 3. ]

(Man)  [ 안내 말씀을 듣기겠습니다. 오늘 새로 개통된 지하철 5호선 기계 고장으로 오후 2시부터 운행이 일시 중단되었습니다. 현재 고치고 있으니 3시간 후에 다시 운행될 예정입니다. 5호선을 이용하실 분은 4호선을 이용해 주시기 바랍니다. 거듭 사과 말씀을 드립니다. ]

(Narrator)  [ Question 3. What is being announced? ] (16 seconds)

3. (A) That service is not affected.
(B) That service will be restored.
(C) That a new line will open on the following day.
(D) That there will be no service at 3 o’clock.

Sample Usage Questions

Part A

Directions: This section consists of a number of incomplete statements, each of which has four suggested completions. Select the word or words that best complete the sentence structurally and logically and fill in the corresponding circle on the answer sheet.

4. 친구: 할아버지 집에 왔어요?
   할아버지: 그래, ____.

   (A) 잠셨다
   (B) 먹었다
   (C) 드셨다
   (D) 하셨다

5. 민주: 어렸을 때 뭐이 뛰었어요?
   민주: 저는 어렸을 때 경찰이 ____.

   (A) 되어 있었어요
   (B) 되어 버렸어요
   (C) 되고 싶었어요
   (D) 되고 말았어요

6. 우리 언제는 오늘 숙제를 ____ 가는 바람에 학교에 ____ 다시 집에 돌아왔어요.

   (A) 떠버리고....가다가
   (B) 떠버리고.....가면서
   (C) 떠버리고.....가는데
   (D) 떠버리고.....가지만
Sample Reading Questions

Directions: Read the following selections carefully for comprehension. Each selection is followed by one or more questions or incomplete statements based on its content. Choose the answer or completion that is best according to the selection and fill in the corresponding circle on the answer sheet.

Questions 12-13

12. What kind of business is being advertised?
   (A) A bookstore
   (B) A gift shop
   (C) A delivery service
   (D) A drugstore

13. How can one receive a special discount?
   (A) By mail order
   (B) By using a credit card
   (C) By membership
   (D) By buying a large quantity
Questions 14-16

14. How long did the writer think it would take to get used to American life?
   (A) About four months
   (B) About four years
   (C) At least a year
   (D) A lifetime

15. What did the writer learn is important in American society?
   (A) To accept cultural diversity
   (B) To speak many languages
   (C) To help international students
   (D) To befriend many people

16. What does the writer think is the best way to become proficient in English?
   (A) Memorizing a lot of vocabulary
   (B) Attending various seminars
   (C) Participating in student clubs
   (D) Learning and thinking in English
Latin

One-hour subject test

Purpose

- Measure wide-ranging knowledge of Latin

Format

- 70–75 multiple-choice questions
- Only offered in December and June

Content

Questions may require you to:

- Select appropriate grammatical forms of Latin words
- Choose Latin words from which English words are derived
- Translate from Latin to English
- Complete Latin sentences
- Choose alternate ways of expressing the same thought in Latin
- Answer a variety of questions based on short passages of prose or poetry

The reading comprehension part has 30 to 37 questions based on three to five reading passages and one or two poetry passages. A set of questions following a poetry passage always includes one question requiring you to scan the first four feet of a line of dactylic hexameter verse or to determine the number of elisions in a line.

Recommended Preparation

- 2–4 years of Latin study in high school (the equivalent of two to four semesters in college)
- Gradual development of competence in sight-reading Latin over a period of years

Score

- Total score: 200–800 scale

Sample Questions

Six types of questions are used in the Latin Subject Test. All questions in the test are multiple-choice questions in which you must choose the BEST response from the four choices offered.

Note: In some questions, variations of Latin terms will appear in parentheses.

**Directions:** In each statement below, you are asked to give a specific form of the underlined word. Select the correct form from the choices given. Then fill in the corresponding circle on the answer sheet.

1. The dative singular of senātus is
   (A) senātū (B) senātum (C) senātus (D) senātuī

2. The nominative plural neuter of fortior is
   (A) fortīrēs (B) fortīrī (C) fortīrum (D) fortīora

3. The present subjunctive passive of capitis is
   (A) capiāminī (B) capiēminī (C) caperēminī (D) capiminī

**Directions:** Each of the following English sentences contains a word that is underlined. From among the choices, select the Latin word to which the underlined word is related by derivation. Then fill in the corresponding circle on the answer sheet.

4. The transition from adolescence to adulthood was easy.
   (A) sedēre (B) ire (C) ferre (D) esse

5. All things are possible.
   (A) pōnō (B) possum (C) possideō (D) poscō

CONTENT

<table>
<thead>
<tr>
<th>Skills Measured</th>
<th>Approximate % of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammar and syntax</td>
<td>30</td>
</tr>
<tr>
<td>Derivatives</td>
<td>5</td>
</tr>
<tr>
<td>Translation and reading</td>
<td>65</td>
</tr>
<tr>
<td>comprehension</td>
<td></td>
</tr>
</tbody>
</table>

**Score**

- Total score: 200–800 scale
Directions: In each of the sentences below, part or all of the sentence is underlined. From among the choices, select the best translation for the underlined word or words. Then fill in the corresponding circle on the answer sheet.

6. Si vocāvissēs, laetī fuissēmus.
   (A) If you were calling
   (B) If you had called
   (C) If you are calling
   (D) If you should call

7. Agricola dixit se puellam visūrum esse.
   (A) that he would see the girl
   (B) that he had seen the girl
   (C) that the girl would see him
   (D) that they will see the girl

8. Iter mīlitibus faciendum est.
   (A) The journey was made by the soldiers.
   (B) The journey is being made by the soldiers.
   (C) The soldiers must make a journey.
   (D) The soldiers have made a journey.

Directions: Each of the sentences below contains a blank space indicating that a word or phrase has been omitted. For each blank, four completions are provided. Choose the word or phrase that best completes the sentence and fill in the corresponding circle on the answer sheet.

   (A) a saxō      (B) saxum
   (C) cum saxō    (D) saxō

10. Vīdistī . . . patriam incolunt.
    (A) quōs       (B) quī
    (C) quem      (D) cui

Directions: Read the following texts carefully for comprehension. Each is followed by a number of questions or incomplete statements. Select the answer or completion that is best according to the text and fill in the corresponding circle on the answer sheet.

Honors for an emperor
Cum igitur in amōre omnium Marcus Antonīnus bene rēgnāvisset, octāvō decimō annō imperīi suī mortuus est. Priusquam fūnus celebrātum est, senātus populusque eum deum esse dixit. Mox nēmō erat quī eiūs (ejus) imagīnem in suā domō non habēret, hodiēque in multis domibus Marcī Antonīnīi statuae consistunt inter Penātēs. Neque défuērunt homines qui crēderent in somnīs eum multa quaē vēra essent praedīxisse.

Line 5

13. In line 2, octāvō decimō annō is translated
   (A) for eighteen years
   (B) after eighteen years
   (C) in the eighteenth year
   (D) throughout the eighteenth year
14. The first two sentences (Cum . . . dixit) tell us that
   (A) Antoninus arranged his own funeral before he died
   (B) everyone celebrated Antoninus’ funeral for eighteen days
   (C) a god told the senate and people to celebrate Antoninus’ funeral
   (D) Antoninus was proclaimed a god by the senate and people

15. In line 5, suā refers to
   (A) deum (line 4)
   (B) nēmō (line 5)
   (C) eius (ejus) (line 5)
   (D) imaginem (line 5)

16. The third sentence (Mox . . . Penētēs) tells us that
   (A) Antoninus placed statues of the household gods in every home
   (B) no one had a statue of Antoninus
   (C) many statues of Antoninus replaced the household gods
   (D) many houses had statues of Antoninus among the household gods

17. In line 9, praedīxisse is translated
   (A) would predict
   (B) had predicted
   (C) predicts
   (D) will have predicted

18. The last sentence (Neque . . . praedīxisse) tells us that
   (A) people do not always believe their dreams
   (B) Marcus Antoninus was believed to prophesy in dreams
   (C) Marcus Antoninus believed in the truth of many dreams
   (D) people predicted that many would believe their dreams

**ANSWERS**

The estimated difficulty level, on a scale of 1 to 5, with 1 the easiest and 5 the most difficult, is in parentheses.

Spanish and Spanish with Listening
One-hour subject tests

Purpose

Spanish Test
- Evaluate reading skills through precision of vocabulary structure use and comprehension of a variety of texts

Spanish Test with Listening
- Measure the ability to understand written and spoken Spanish

Format

Spanish Test
- 85 multiple-choice questions
- Offered at all administrations except November and March

Spanish Test with Listening
- 20 minutes listening and 40 minutes reading
- 85 multiple-choice listening and reading questions
- Only offered in November at designated test centers

CD Player
You must bring an acceptable CD player with earphones. See page 5.

Content

Reading questions implicitly test vocabulary throughout the test, but some questions specifically test word meaning in the context of a sentence that reflects spoken or written language. Understanding of various parts of speech (nouns, verbs, adjectives, adverbs, etc.) and idiomatic expressions is tested. The reading section also asks:

Structure Questions: These questions ask you to identify usage that is both structurally correct and contextually appropriate. Other reading questions test vocabulary and grammatical usage in longer paragraphs.

Reading Questions: These questions are based on selections from prose fiction, historical works, newspaper and magazine articles, as well as advertisements, flyers, and letters. They test points such as main and supporting ideas, themes, style, tone, and the spatial and temporal settings of a passage.

The listening section has three parts:

Part A questions ask you to identify the sentence that most accurately describes what is presented in a photograph or what someone in the photograph might say.

Part B questions test your ability to identify a plausible continuation of a short conversation.

Part C requires that you answer comprehension questions based on more extensive listening selections.

Recommended Preparation

Both tests reflect general trends in high school curricula and are independent of particular textbooks or methods of instruction. Recommended preparation includes:

- 3–4 years of study in high school or the equivalent (2 years for advanced students)
- Gradual development of competence in Spanish over a period of years

Spanish Test with Listening
- Review of sample listening questions using the practice CD available from your school counselor

Score

- Total score: 200–800 scale
- Listening test: reading and listening subscores 20–80 scale
Sample Reading Questions

There are three types of reading questions, grouped into separate parts. Each part accounts for approximately one-third of the total score. All questions in the test are multiple-choice questions in which you must choose the BEST response from the four choices offered.

Part A

Directions: This part consists of a number of incomplete statements, each having four suggested completions. Select the most appropriate completion and fill in the corresponding circle on the answer sheet.

1. En Córdoba, uno de los grandes centros culturales de España, se ------- libros del hebreo y del árabe al latín.
   (A) mudaban  (B) trasladaban  
   (C) impresionaban  (D) traducían

2. Los cubanos están muy orgullosos de ------- larga tradición folclórica.
   (A) suyos  (B) sus  
   (C) suya  (D) su

3. Se sabe que la playa de Luquillo es muy popular porque la gente de San Juan la visita -------  .
   (A) en resumidas cuentas  (B) en punto  
   (C) a medias  (D) a menudo

4. Si ------- en el Brasil, hablaríamos portugués y no español.
   (A) vivamos  (B) vivimos  
   (C) vivíamos  (D) viviéramos

Part B

Directions: In each of the following paragraphs, there are numbered blanks indicating that words or phrases have been omitted. For each numbered blank, four completions are provided. First, read through the entire passage. Then, for each numbered blank, choose the completion that is most appropriate given the context of the entire paragraph and fill in the corresponding circle on the answer sheet.

La máquina más infernal de hacer dinero se llama “Pedroso,” un osito electrónico que _ (5) _ ha derramado sobre sus fabricantes beneficios superiores a los 100 millones de dólares en el _ (6) _ año. La _ (7) _ de Pedroso es que habla. Claro, no hay ningún misterio en la cinta sin fin y el grabador _ (8) _ en el interior del osito. Pero lo _ (9) _ novedoso es que _ (10) _ hablar su boca se mueve en sincronía con las palabras y sus ojos pestañean. El juguete _ (11) _ vende a precios que oscilan entre 60 y 80 dólares.

5.  (A) todavía  (B) nunca  
   (C) ya  (D) tampoco

6.  (A) primero  (B) primer  
   (C) primo  (D) primario

7.  (A) oportunidad  (B) mayoría  
   (C) desventaja  (D) particularidad

8.  (A) ocultos  (B) lejanos  
   (C) cobrados  (D) llenos

9.  (A) verdaderamente  (B) antiguamente  
   (C) ansiosamente  (D) perezosamente

10.  (A) del  (B) en  
   (C) al  (D) de

11.  (A) se  (B) le  
   (C) lo  (D) los
Part C

Directions: Read the following texts carefully for comprehension. Each text is followed by a number of questions or incomplete statements. Select the answer or completion that is BEST according to the passage and fill in the corresponding circle on the answer sheet.

Alcanzó la carretera central y pisó el acelerador. Se cruzó con varios camiones del ejército y con una ambulancia de la Cruz Roja. Sara hablaba incoherentemente a su lado.
—Pararemos en algún lugar. Un café nos hará bien. En Santa Fe cayeron las primeras gotas. Álvaro las vio caer en los cristales como frutas maduras y, a los pocos segundos, el espacio se convirtió en una cortina de agua. Era la lluvia violenta del trópico acompañada de un viento colérico y del fuego brutal de los relámpagos. Los limpiacristales oscilaban inútilmente en abanico con un ruido sordo.

12. ¿Dónde se desarrolla esta narración?
(A) En una casa (B) En un automóvil (C) En un café (D) En un cuartel

13. ¿Qué desea Álvaro?
(A) Abrir la cortina (B) Comer una fruta (C) Tomar un café (D) Encender la luz

14. ¿Cuál de los siguientes beneficios ofrece esta compañía de seguros?
(A) Reparación de autos (B) Ayuda financiera (C) Protección al viajar (D) Servicios de día y noche

15. ¿Qué característica se destaca más de la compañía anunciada?
(A) Su precio (B) Su cortesía (C) Su rapidez (D) Su amplitud

Sample Listening Questions

In addition to the types of reading questions discussed above, the Spanish Test with Listening has three types of listening questions that test your ability to understand spoken Spanish. Please note that in the actual test, the listening section comes first.

Part A

Directions: For each question in this part, you will hear four sentences designated (A), (B), (C), and (D). They will not be printed in your test book. As you listen, look at the picture in your test book and select the choice that best reflects what you see in the picture or what someone in the picture might say. Then fill in the corresponding circle on your answer sheet. You will hear the choices only once.

You see:

You hear:
[Número 1 (Woman)]
(A) Siempre quise ser florista.
(B) Sólo hay una persona haciendo cola.
(C) Las cebollas están baratas hoy.
(D) Creo que está por aquí.] (7 seconds)
Part C

Directions: You will now hear a series of selections. For each selection, you will see printed in your test book one or more questions with four possible answers. They will not be spoken. Select the best answer to each question from among the four choices printed and fill in the corresponding circle on your answer sheet. You will have twelve seconds to answer each question.

You hear:

[Selección número 1]

(Narrator) Escuchen esta conversación en la taquilla del Teatro Colón.

(Man) Buenas tardes, señorita. ¿Todavía hay entradas para el programa del sábado? Necesito dos.

(Woman) No, ya no quedan.

(Man) Entonces, ¿para el domingo?

(Woman) Ah, sí, para el domingo sí hay.

(Man) ¿Es el mismo programa?

(Woman) No, es diferente; es un concierto de música clásica.

(Man) Entonces, deme dos entradas, por favor.

(Narrator) Ahora contesten las preguntas 4 y 5.

(24 seconds)

You read:

Selección número 1

4. ¿Para cuándo quedan entradas?
   (A) Para la tarde.
   (B) Para el sábado.
   (C) Para el domingo.
   (D) Para la próxima semana.

5. ¿Qué programa presentan el domingo?
   (A) Una comedia.
   (B) Una ópera.
   (C) Un concierto.
   (D) Un ballet.
Y ahora, el pronóstico del tiempo.

Ahora contesten la pregunta 6.]

¿Qué se anuncia para el día siguiente?
(A) Sol.
(B) Lluvia.
(C) Viento.
(D) Frío.
Biology
Prue Talbot, University of California, Riverside, California, Chair
Brenda Alston-Mills, North Carolina State University, Raleigh, North Carolina
Fred Holtzclaw, Webb School, Knoxville, Tennessee
Susan Offer, Lexington High School, Lexington, Massachusetts
Nancy E. Ramos, Northside Health Careers High School, San Antonio, Texas

Chemistry
Alexander Grushow, Rider University, Lawrenceville, New Jersey, Chair
Valerie Ferguson, Moore High School, Oklahoma City, Oklahoma
Dale Jensen, North Medford High School, Medford, Oregon
Leroy (Pete) Peterson, Francis Marion University, Florence, South Carolina

Chinese
Cornelius (Neil) Kuhler, Williams College, Williamstown, Massachusetts, Chair
Baocai Paul Jia, Cupertino High School, Sunnyvale, California
Hsin-hsin Liang, University of Virginia, Charlottesville, Virginia
Joyce Fan Hwa Ranieri, The Spence School, New York City, New York
Meng Yeh, Rice University, Houston, Texas

French
Geneviève Delfosse, Thomas Jefferson High School, Alexandria, Virginia, Chair
Koffi Anyinefa, Haverford College, Haverford, Pennsylvania
Nathan Bracher, Texas A&M University, College Station, Texas
Thérèse-Sophie O'Connell, Jacksonville University, Jacksonville, Florida
Robert Peloquin, Boston College High School, Boston, Massachusetts

German
Glenn Levine, University of California-Irvine, Irvine, California, Chair
Marita Cleaver, McKinney High School, McKinney, Texas
Craig Decker, Bates College, Lewiston, Maine
Deborah Lund, Ladue Horton Watkins High School, St. Louis, Missouri
Brigitte Rossbacher, University of Georgia, Athens, Georgia

Modern Hebrew
Vardit Ringvald, Brandeis University, Waltham, Massachusetts, Chair
Linda Alexander, Great Neck North High School, Great Neck, New York
Lit Kadosh, Emory University, Atlanta, Georgia

(Modern Hebrew, continued)
Orit Marmel, Ida Crown Jewish Academy, Chicago, Illinois
Vered Shemtov, Stanford University, Stanford, California

Italian
Alessandro Vettori, Rutgers University, New Brunswick, New Jersey, Chair
Tracy Barrett, Vanderbilt University, Nashville, Tennessee
Judy Musante Branzburg, Lowell High School, San Francisco, California
María Procopio, Newton North High School, Newton, Massachusetts
Marisa Trubiano, Montclair State University, Upper Montclair, New Jersey

Japanese
Suwako Watanabe, Portland State University, Portland, Oregon, Chair
Mr. Atsushi Fukuda, Purdue University, West Lafayette, Indiana
Ms. Michiko Homann, Boston Latin Academy, Boston, Massachusetts
Virginia Marcus, Washington University, St. Louis, Missouri
Ms. Kyoko Shoji, Notre Dame High School, Sherman Oaks, California

Korean
Sungdai Cho, SUNY at Binghamton, Binghamton, New York, Chair
Ah-Mi Cho, Lowell High School, San Francisco, California
Wonsook Lee, Newtown High School, Elmhurst, New York
Sang-suk Oh, Harvard University, Cambridge, Massachusetts
Mee-Jeong Park, University of Hawaii at Manoa, Honolulu, Hawaii

Latin
Margaret Brucia, Temple University Rome, Philadelphia, Pennsylvania, Chair
Jane Crawford, University of Virginia, Charlottesville, Virginia
David Demaine, Northfield Mount Hermon School, Northfield, Massachusetts
Jo Heim Green, Westlake High School, Austin, Texas
Peter Howard, Troy University, Troy, Alabama

Literature
Cheng Lok Chua, California State University, Fresno, California, Chair
Robin Inbody, Wittenberg University, Springfield, Ohio
Melville MacKay, John Bapst Memorial High School, Bangor, Maine
Edward Schmieder, Sayville High School, West Sayville, New York
Barbara Whitehead, Hampton University, Hampton, Virginia

Mathematics
Marie M. Vanisko, Carroll College, Helena, Montana, Chair
Kelly Black, Union College, Schenectady, New York
Laurette Foster, Prairie View A&M University, Prairie View, Texas
Phyllis Hillis, Oak Ridge High School, Oak Ridge, Tennessee
Michael Koehler, Blue Valley North High School, Overland Park, Kansas
Michael Ponisciak, LaSalle College High School, Wyndmoor, Pennsylvania

Physics
Daniel Smith, South Carolina State University, Orangeburg, South Carolina, Chair
Ronald Bieniek, University of Missouri, Rolla, Missouri
Margaret Brinker, Chapparal High School, Parker, Colorado
Jeff Funkhouser, Northwest High School, Justin, Texas
Stephen Robey, Kent School, Kent, Connecticut

Spanish
Carmen Silva-Corvalán, University of Southern California, Los Angeles, California, Chair
Maria Asunción Gómez, Florida International University, Miami, Florida
Mark A. Grudzien, Hall High School, West Hartford, Connecticut
Lisa María Martínez, Dublin Coffman High School, Dublin, Ohio
Edwin Padilla, University of Houston-Downtown, Houston, Texas

U.S. History
David Quigley, Boston College, Boston, Massachusetts, Chair
Rosemary Kolks Ennis, Sycamore High School, Cincinnati, Ohio
Joyce Goldberg, University of Texas-Arlington, Arlington, Texas
Rich Mayorga, Sunnyside High School, Tuscon, Arizona
Rosemarie Zagarri, George Mason University, Fairfax, Virginia

World History
David Northrup, Boston College, Boston, Massachusetts, Chair
Patricia L. Don, San Jose State University, San Jose, California
Alan LeBaron, Kennesaw State University, Kennesaw, Georgia
Ane Lintvedt, McDonogh School, Owings Mills, Maryland
Sigrid Reynolds, George Washington High School, Cedar Rapids, Iowa
Prepare for the SAT Subject Tests™ with Help from the Test Maker

The College Board provides the only books with official, full-length SAT Subject Tests.

The Official SAT Subject Tests in Mathematics Levels 1 & 2 Study Guide™

- Two previously administered Mathematics Level 1 tests
- Two previously administered Mathematics Level 2 tests
- Detailed answer explanations for every test question

The Official SAT Subject Tests in U.S. and World History Study Guide™

- Two previously administered U.S. History tests
- Two previously administered World History tests
- Detailed answer explanations for every test question

Order today! store.collegeboard.com
**SAT Program Test Calendar 2008-09**

<table>
<thead>
<tr>
<th>TEST DATES</th>
<th>OCT 4</th>
<th>NOV 1</th>
<th>DEC 6</th>
<th>JAN 24</th>
<th>MAR 14</th>
<th>MAY 2</th>
<th>JUN 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early (international only)</td>
<td>Aug 26</td>
<td>Sep 10</td>
<td>Oct 15</td>
<td>Dec 3</td>
<td>NA</td>
<td>Mar 11</td>
<td>Apr 15</td>
</tr>
<tr>
<td>Regular</td>
<td>Sep 9</td>
<td>Sep 26</td>
<td>Nov 5</td>
<td>Dec 26</td>
<td>Feb 10</td>
<td>Mar 31</td>
<td>May 5</td>
</tr>
<tr>
<td>Late (domestic only)</td>
<td>Sep 16</td>
<td>Oct 10</td>
<td>Nov 18</td>
<td>Jan 6</td>
<td>Feb 24</td>
<td>Apr 9</td>
<td>May 15</td>
</tr>
</tbody>
</table>

**REGISTRATION DEADLINES**

- **Early** (international only): Aug 26, Sep 10, Oct 15, Dec 3
- **Regular**: Sep 9, Sep 26, Nov 5, Dec 26
- **Late** (domestic only): Sep 16, Oct 10, Nov 18, Jan 6

**Registration and Test Fees**

- **SAT Reasoning Test**: $45
- **SAT Subject Tests**: $20
  - Basic Subject Test Fee (per registration): $20
  - Language Test with Listening: $20
- **Additional Processing Fees**: $9 each

**Fees for Receiving Your Scores**

- Scores by Web: FREE
- Official Score Report (automatically mailed): FREE
- Scores by phone (per call): $12.50

**Fees for Sending Your Scores**

- Score report requests at registration: $9.50 each
- Additional score report requests: FREE
  - Request by Web or mail: FREE
  - Request by phone (per call): $10
  - RUSH order (per order): $27
  - Scores retrieved from archive: $21

**Student Answer Service Fees**

- SAT Question-and-Answer Service*: $18
- SAT Student Answer Service*: $12

**Additional Service Fees**

- Hand-Scored/Score Verification Request: $50
- Essay score verification: $50
- Refund processing fee: $7
  - (for overpayments and duplicate payments)

**Payment Notes**

- Do not send cash. We will return unprocessed all registrations and orders received with cash or checks drawn on non-U.S. banks or other forms of payment not listed as acceptable in this booklet. We reserve the right to electronically collect payments by check. See the SAT Registration Booklet for more information.

**Note:** Standby testing is not allowed in Benin, Cameroon, Ghana, Kenya, Nigeria, or Togo.

*Fees are nonrefundable except as noted with an asterisk. You must have missed your test date to receive a refund for these services. Orders cannot be refunded, returned, or canceled after shipment.