

## GED TESTING INFORMATION

**EXAMINER:** CHASTITY VANBUSKIRK AND  
LORETTA ELLISON

**TEST SITE:** 439 S. 4<sup>th</sup> Street  
Globe, AZ 85501  
Room 101

**TEST TIME:** 8:30 on Both Days  
Please Report 15 minutes prior to Test

**ITEMS TO BRING:** Picture ID  
Original Receipt

If you need further information or you have any questions please  
contact Anthony Martinez @ 928-425-3231 X-8786

**TEST DATE:**

Please send the following items to pre-register:

18 and younger need the following to pre-register:

1. Completed Pre-Registration Card
2. Birth Certificate
3. Picture I.D. (Copy)
4. Notarized Parent Consent Form
5. Withdrawal Slip
6. \$80.00 Fee (Money Order)  
*NO PERSONAL CHECK!*

*18 and older needs the following to pre-register*

1. *Completed Pre-Registration Card*
2. *Picture ID (Copy)*
3. *\$80.00 Fee (Money Order or Cash)*  
*NO PERSONAL CHECKS!*

*MAIL TO: Gila County Superintendent of School  
1400 E Ash Street  
Globe, AZ 85501  
928-425-3231 X8786  
Anthony Martinez  
GED Assistant*

# GED TESTING IN GLOBE

A Service Provided by the Gila County Superintendent of Schools  
1400 E. Ash St.  
Globe, AZ 85501

## PRE-REGISTRATION:

- You must pre-register in advance of each testing date. Space is limited, and availability is on a “first come, first served basis”.
- Pre-register at  
Globe Office of the Gila County Superintendent of Schools,  
1400 E. Ash St. Globe, AZ 85501
- Call (928) 402-8786 for more information.
- Office hours: 8:00 am – 5 pm, Monday through Friday.

## WHAT YOU MUST BRING TO PRE-REGISTER:

- An official photo I.D. indicating date of birth and current address. Identification must also be presented at time of testing.
- *A money order, certified check, or cash* (in correct amount) of \$80.00 for the battery of five (5) GED tests. Individual (re-take) tests are \$10.00 each. **NO PERSONAL CHECKS, PLEASE!**

## TESTING CENTER LOCATION:

- Testing is conducted at  
Globe Regional Education Center  
439 S. 4<sup>th</sup> St. Multi Media Purpose Room  
Globe, AZ 85501

## TESTING TIMES:

- 8:00 a.m. to 12:00 p.m. On Thursday and Friday.

## WHO CAN TAKE THE GED TESTS:

- You are eligible to take the GED tests if: (1) you have not received a high school diploma; (2) you are no longer enrolled in a public, private or charter high school; (3) you are 16 years of age or older; and, (4) you have not taken the GED test within the last three (3) years.
- If you have taken the GED test within the last three (3) years, you must indicate where and when you took the test and, if possible, provide a copy of your test scores. If you took the test in another state, you will need to provide a copy of your test scores.
- If you are 16 or 17 years of age at the time of registration, you must also provide:
  1. An official withdrawal document from the last school attended. If you have been home schooled, you need official withdrawal documentation from the County School Superintendent’s office (928) 425-3231, extension 8784.
  2. A notarized Statement of Consent signed by a parent or legal guardian to take the GED test.
  3. A copy of your birth certificate.

Revised 3/26/2008

## GED TESTING INFORMATION

An appointment must be made to take the GED test. This can be done by calling Anthony at the following number (928) 402-8786 to request being put on the testing schedule. Dr. Linda O'Dell is the official GED examiner for Gila County. Testing begins early (ask for testing time) at the Payson Education Center. The test is broken out into two days in Payson.

### **Requirements for those 18 years of age and over:**

1. The applicant must have a positive picture ID. This can include a valid Arizona driver's license, a food stamp card, a state ID card, or a tribal card. Valid ID's can also be obtained at the Department of Motor Vehicles in Claypool for a nominal fee.
2. The applicant must bring \$80.00 for test fees or a voucher from DES or other appropriate agency.

### **Requirements for those under 18 years of age:**

In addition to the above requirements, those under the age of 18 must also provide:

- **Official Form of Withdrawal** from previous school, and
- **Notarized Letter of Permission** from parent/guardian

The test covers five different areas, presented in multiple choice question form:

- **SOCIAL STUDIES:** 50 questions, 70 minutes
- **SCIENCE:** 50 questions, 80 minutes
- **LANGUAGE ARTS, READING:** 40 questions, 65 minutes
- **LANGUAGE ARTS, WRITING:** Part I: 50 questions, 75 minutes  
Part II: One Essay, 45 minutes
- **Mathematics:** Part I: 25 questions, 45 minutes (optional calculator use)  
Part II: 25 questions 45 minutes (no calculator use)

### **Total: 240 questions, approximately 7 hours**

To pass the GED test in Arizona (English or Spanish Language version), students must achieve a **standard minimum score of at least 410 on each of the five tests and a combined total of 2250 points on all five tests**. In addition, **the average of the entire test scores must be 450 or above**. This means that students must score higher than 410 on two or three of the tests.

Students who do not pass specific sections of the test (for example, the math portion of the test) may retake any part of the test after a **30-day waiting period**. Candidates have up to **three years from the original test date to retake that test**. If test section is not retested by this deadline, entire test must be retaken and the original test fee paid again. A student may also choose to retake a test that has been passed to raise the score. Only the highest score will be used to determine the official result. The fee for each test retake is \$10.00.

**If an individual does not successfully pass the GED test**, scores are reported to our local testing center within the next week. The student shall call Anthony Martinez at 928-402-8786 for Re-Take options.

**If the student passes**, results (an official transcript and GED Diploma) will be mailed to the student within 2-4 weeks.

Further information may be found:

Internet: [www.ade.az.gov/adult-ed](http://www.ade.az.gov/adult-ed) or [www.gedtest.org](http://www.gedtest.org)

Email: [phxged@ade.az.gov](mailto:phxged@ade.az.gov)

By mail: Arizona Department of Education  
GED Testing Office  
1535 West Jefferson Street, Bin VIR  
Phoenix, Arizona 85007

In person: 333 East Virginia Avenue, Suite 205, Phoenix, Arizona

Telephone: (602) 258-2410 or (602) 254-0265

Fax: (602) 258-4977 or (602) 258-4986

## GED, Adult Ed. and English classes

Arizona Silver Belt

**GLOBE** — GED, Adult Ed. and English classes will be held at the Globe Education Center at 439 S. Fourth Street in Globe (enter behind school buildings on Fifth St.) on Tuesday, Wednesday and Thursday from 3:30 to 7 p.m.

Students may attend any time or

day during the scheduled hours.

There are a variety of study methods — individual study, teacher assisted study, class work, and computer-based study. All materials are provided. For information about registering, please call 928-961-4134 on weekdays from 8 a.m. to 5 p.m.



Arizona Department of Education  
John Huppenthal, Superintendent of Public Instruction

# GED Testing Online? The Truth

*Beware of Fraudulent Diploma Mills*

## In Arizona

1. The Arizona Department of Education is the **ONLY** organization lawfully allowed to issue the Arizona High School Equivalency Diploma.
2. This diploma is issued upon the successful completion of the official GED® Test.
3. You **CANNOT** earn an official GED® credential or take the official GED® Test via the internet or through any correspondence program.
4. The official GED® Test must be taken at an authorized GED® Test Center.
5. Any services that claim to offer a "GED credential" online, through correspondence or any other means, are **NOT** affiliated with GEDTS (*General Educational Development Testing Service*) or ACE (*American Council on Education*). What these services give you may not be accepted by employers, colleges and universities, or the military.

**WARNING**

**BEWARE  
OF ONLINE  
GED  
Diploma**

**FRAUD!**

*It sounds so convincing. It looks official.*

*You believe it is legitimate, so you pay money.*

*You present your certificate to a college, employer or military personnel.*

*Then you discover the piece of paper in your hands is worthless.*

**DON'T BECOME THE NEXT VICTIM!!**



Arizona Department of Education  
John Huppenthal, Superintendent of Public Instruction

## Contact Information for CLASSES

► **Adult Basic Education (ABE) in  
Basic Reading, Writing & Mathematics Skills  
& GED® Preparation Classes**

**County**

OPTIONS: (1) *Face-to-Face* (2) *Distance Learning "DL"*

<b>Apache</b>	 <i>Distance Learning "DL"</i> Northland Pioneer College	Phone: (800) 266-7845 ext. 2126 Email: <a href="mailto:djohnson@npc.edu">djohnson@npc.edu</a>
	 <i>Face-to-Face</i> Northland Pioneer College Chinle, Dikou, Fort Defiance, Ganado, Greasewood, Pinon, St. Johns, Sanders, Springerville-Eager	Phone: (800) 266-7845 ext. 6536 Email: <a href="mailto:npcTLC@npc.edu">npcTLC@npc.edu</a>
<b>Cochise</b>	 <i>Distance Learning "DL"</i> Cochise College Adult Education	Phone: (520) 515-5456 Email: <a href="mailto:browng@cochise.edu">browng@cochise.edu</a>
	 <i>Face-to-Face</i> Cochise College Adult Education Benson, Douglas, Sierra Vista, Wilcox	Phone: (520) 515-5456
<b>Coconino</b>	 <i>Distance Learning "DL"</i> Coconino Community College Adult Ed	Phone: (928) 526-7638 Email: <a href="mailto:paula.pluta@coconino.edu">paula.pluta@coconino.edu</a>
	 <i>Face-to-Face</i> Coconino Community College Adult Ed Flagstaff, Page, Williams	Phone: (928) 526-7639 Web: <a href="http://www.coconino.edu/adulted">www.coconino.edu/adulted</a>
<b>Gila</b>	 <i>Distance Learning "DL"</i> Gila County Adult Education	Phone: (928) 472-5374 Email: <a href="mailto:lowen@co.gila.az.us">lowen@co.gila.az.us</a>
	 <i>Face-to-Face</i> Gila County Adult Education Globe, Payson, San Carlos	Phone: (928) 472-5374
<b>Graham</b>	 <i>Distance Learning "DL"</i> Gila County Adult Education	Phone: (928) 472-5374 Email: <a href="mailto:lowen@co.gila.az.us">lowen@co.gila.az.us</a>
<b>Greenlee</b>	 <i>Distance Learning "DL"</i> Gila County Adult Education	Phone: (928) 472-5374 Email: <a href="mailto:lowen@co.gila.az.us">lowen@co.gila.az.us</a>



# ARIZONA GED® RECORDS REQUEST

We *DO NOT* fax or email transcripts or scores.

Check 1 Box Below:

Transcript

Verification

## INSTRUCTIONS

- (1) Candidate must complete this form. Print clearly. If we cannot read it, we cannot process it.
- 2) Enclose money order based on fee schedule (Page 2)
- 3) Sign this form, enclose **MONEY ORDER**, and mail to
- 4) Once verified, your transcript will be **mailed** to you.
- 5) For verbal verifications, wait 3 business days after money order & request have been received, and then **CALL** for verbal verification. Contacting this office any sooner only delays processing!!
- 6) For questions, call: (602) 258-2410 Press "2"

**GED® Testing Bin #26**  
 Arizona Department of Education  
 1535 West Jefferson Street  
 Phoenix, Arizona 85007

### SECTION I: STUDENT INFORMATION

Current Legal Last Name	Current Legal First Name	Current Legal Middle Name/initial
<b>Social Security Number REQUIRED</b>	<b>Date of Birth (Month/Day/Year) REQUIRED</b> / /	<b>Exact Name Test Was Taken Under REQUIRED</b>
Home Mailing Address	City, State, Zip Code	Contact Phone Number + Area Code ( )
Location and Name of Testing Center		Date Test Was Completed (Month/Year) /

**CERTIFICATION:** *"I hereby certify that all information provided is completely true, and I authorize the release of my scores to the requestor."*

#### APPLICANT SIGNATURE (Required by Student Privacy Act)

- ▶ We must have your signature to process your request. Otherwise, your request will be returned.
- ▶ Sign Here \_\_\_\_\_ Date / /

### SECTION II: MAIL RECORDS TO .... (Specify Destination) Mail ONLY - no fax or email

To: (Name of Agency, Educational Institution, Individual)		Attention:
Mailing Address	City, State	Zip Code



# FEE UPDATE

## GED® RECORDS REQUESTS

### JANUARY 1, 2011



### GED® Records Request

▶ <u>Duplicate Transcript</u>	\$10.00 <i>(Per Transcript)</i>	Fee is refundable if no record is found
▶ <u>Microfiche Record Research</u> PRE-1985 Archived Records <i>Once found, the Microfiche Record is entered into a permanent GED database.</i>	\$15.00 <i>(Per Transcript Search)</i>	One-time charge <b>Non-Refundable fee</b>
▶ <u>Verification of Status</u> <i>Pass or NOF (Not on File)</i>	\$10.00 <i>(Per Candidate Request)</i>	<b>Non-Refundable fee</b>
▶ <u>Expedite Fee</u>	\$20.00 <i>(Per Transcript)</i>	<b>Restrictions apply</b>

#### CONTACT INFORMATION

■ **GED® Testing Bin #26**  
 Arizona Department of Education  
 Adult Education Services  
 1535 West Jefferson Street  
 Phoenix, AZ 85007

■ Phone (602) 258-2410  
 ■ E-Mail [adulted@azed.gov](mailto:adulted@azed.gov)

#### PAYMENT METHOD: Money Order ONLY

No personal checks, credit cards, cashiers checks, etc., will be accepted.  
 Make Money Order out to: Arizona Department of Education/ GED

**Effective JANUARY 1, 2011**

# GED Sample Test Questions

## Language Arts, Writing

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### Part I

There are 50 multiple-choice questions on the *Language Arts, Writing Test, Part I*. These questions require you to revise and edit workplace, how to, and informational documents. Scores are combined with those of Part II and reported as a single score. They are divided among the following three question types: correction, revision, and construction shift. These questions address the following content areas:

**Organization (15%):** Restructure paragraphs or ideas within paragraphs, identify topic sentences, create unity and coherence in the document.

**Sentence Structure (30%):** Correct sentence fragments, run-on sentences, comma splices, improper coordination and subordination, misplaced modifiers, and lack of parallel structure.

**Usage (30%):** Correct errors in subject-verb agreement, verb tense, and pronoun reference.

**Mechanics (25%):** Correct errors in capitalization, punctuation, spelling (restricted to errors related to possessives, contractions, and homonyms).

### Part II

The second part of the Language Arts, Writing Test consists of an essay on a general topic. Part II assesses your ability to write an essay about a familiar subject. Scores are combined with those of Part I and are reported as a single score. More information is available on the Language Arts, Writing Part II page.

## SAMPLE QUESTIONS

**Directions:** Choose the *one best answer* to each question.

*Questions 1 through 6 refer to the following letter of application:*

June 24, 2002

Jonathan Quinn  
Employment Director  
Capital City Gardening Services  
4120 Wisconsin Ave., NW  
Washington, DC 20016

Dear Mr. Quinn:

(A)

(1) I would like to apply for the landscape supervisor position advertised in the Sunday, June 23rd edition of the *Washington Post*. (2) My work experience and education combined with your need for an experienced landscape supervisor have resulted in a relationship that would profit both parties. (3) In May, I graduated from Prince William Community College. (4) Graduating with an associate of arts degree in horticulture. (5) My concentration within the program was designing gardens and choosing the appropriate plants for particular soils and regions. (6) I have also had considerable supervising experience. (7) For several years, I have worked with a local company, Burke Nursery and Garden Center, and have been responsible for supervising the four members of the planting staff.

(B)

(8) Our community knows that Capital City Gardening Services is a company that does excellent work and strives hard to meet the demands of its clients. (9) As my references will attest, I am a diligent worker and have the respect of both

# GED Sample Test Questions

## Language Arts, Writing

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### Part II

In the second part of the *Language Arts, Writing Test*, you will write an essay about an issue or subject of general interest. This section assess your ability to write an essay about a familiar topic. The essay topic will require you to present your opinion or explain your views about the assigned topic.

You will have 45 minutes in which to plan, write, and revise your essay. You will be given scratch paper on which you may jot notes, outline, and first draft. The answer booklet has two pages of lined paper on which you will write your final essay.

### SAMPLE ESSAY TOPIC

What is one important goal you would like to achieve in the next few years?

In your essay, identify that one goal and explain how you plan to achieve it. Use your personal observations, experience, and knowledge to support your essay.

### Scoring

Two trained readers will score your essay on the basis of the following features:

- well-focused main points
- clear organization
- specific development of your ideas
- control of sentence structure, punctuation, grammar, word choice, and spelling

Each reader will score your essay on a 4-point scale, and the scores will be averaged to find your final score. If you earn a final score of less than 2 on the essay, you must retake both Parts I and II of the *Language Arts, Writing Test*. Also, you must write only on the assigned topic; if you don't, your essay will not receive a score, and you will have to retake both parts of the test.

All writers make mistakes when they write quickly. Good writers take the time to go over what is written and correct mistakes. Your writing will show your best skills if you take the time to plan what you want to say and review it to make any needed corrections.

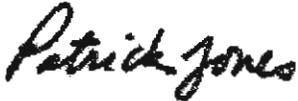
(B)

(8) Our community knows that Capital City Gardening Services is a company that does excellent work and strives hard to meet the demands of its clients. (9) As my references will attest, I am a diligent worker and have the respect of both my coworkers and my customers. (10) I will be, as a landscape supervisor at your firm, able to put to use the skills and knowledge that I have obtained from my professional career and education. (11) I have included a copy of my resume, which details my principal interests education, and past work experience. (12) I have also included photographs of the landscape projects I have supervised as well as drawings of proposed projects.

(C)

(13) I am excited about the opportunities and many challenges that this position would provide. (14) Thank you for your consideration, and I look forward to hearing from you.

Sincerely,



Patrick Jones  
1219 Cedar Lane  
Manassas, VA 20109

1. **Sentence 2:** My work experience and education combined with your need for an experienced landscape supervisor have resulted in a relationship that would profit both parties.

Which correction should be made to sentence 2?

1. insert a comma after *education*
  2. change *combined* to *combine*
  3. change *have resulted* to *would result*
  4. replace *profit* with *prophet*
  5. replace *parties* with *party's*
2. **Sentences 3 and 4:** In May, I graduated from Prince William Community *College*. *Graduating with* an associate of arts degree in horticulture.

Which is the best way to write the italicized portion of these sentences? If the original is the best way, choose option (1).

1. College. Graduating with
2. College, I graduated with
3. College. A graduation with
4. College. Having graduated with
5. College with

3. **Sentence 10:** I will be, as a landscape supervisor at your firm, able to put to use the skills and knowledge that I have obtained from my professional career and education.

If you rewrote sentence 10 beginning with

*As a landscape supervisor at your firm,*

the next words should be

1. and able I will be
  2. I will be able
  3. putting and using with ability
  4. obtaining my professional career and education
  5. able to put to use I will be
4. Which sentence below would be most effective at the beginning of paragraph B?
1. There are many companies in this community, and Capital City Gardening Services is one of them.
  2. A company such as yours is known for a lot of things, especially the beautiful fountain, great billboard, and large parking area.
  3. Like carpet-cleaning services, gardening services range in cost.
  4. A company is only as good as its reputation.
  5. Gosh, I don't know where to begin when saying good things about your company.
5. **Sentence 11:** I have included a copy of my resume, which details my principal interests education, and past work experience.

Which correction should be made to sentence 11?

1. remove the comma after *resume*
  2. replace *principal* with *principle*
  3. insert a comma after *interests*
  4. replace *past* with *passed*
  5. no correction is necessary
6. Which revision would improve the effectiveness of this letter?
- Begin a new paragraph with
1. sentence 3
  2. sentence 5
  3. sentence 7
  4. sentence 9
  5. sentence 12

Answers to these sample questions are also available on the [Answers page](#).

# GED Sample Test Questions

## Social Studies

The *Social Studies Test* contains 50 multiple-choice questions from the following content areas:

- History (United States or Canada, 25%; World, 15%)
- Geography (15%)
- Civics and Government (25%)
- Economics (20%)

(Note: There are different U.S. and Canadian versions of the *Social Studies Test*.)

Most of the test questions are based on written and visual texts drawn from a variety of sources, including academic and workplace texts, as well as primary and secondary sources. The information provided may be one or more paragraphs, a chart, table, graph, map, photograph, cartoon, or figure. In every case, to answer the questions in the *Social Studies Test*, you must understand, apply, analyze, or evaluate the information provided.

### SAMPLE QUESTIONS

**Directions:** Choose the *one best answer* to each question.

*Questions 1 and 2* are based on the following information.

The history of the world is filled with stories of people migrating. Migration is the movement of people from one place to another as they seek a new home. Famine, overpopulation, limited resources, war, and religious and political persecution "push" immigrants to move to another country. Hopes for employment and a better life "pull" immigrants to new places.

Millions have migrated to North America since the 1600s. Spanish, French, English, and Dutch immigrants were the first European settlers to establish permanent colonies. They settled in lands originally populated by people from Asia. Many people from Africa were driven from their homes at this time to be enslaved to work in colonies in the Americas.

Throughout the 1800s, immigrants looking for employment came to North America from Japan, China, and southeastern Europe. In the 1970s and 1980s, Southeast Asians, Latin Americans, and Caribbeans migrated to North America. Many of these immigrants fled from war-torn countries, political persecution, and economic difficulties.

1. The government of a country may restrict the number of immigrants allowed to enter that country.

These restrictions on immigration are most likely based on what belief?

1. An economy can support unlimited numbers of people.
2. The "push" factors justify most immigration.
3. Immigrants enrich the culture of a country.
4. A country has a limited number of jobs and services.
5. A government should not interfere with the migration of people.

2. Based on the information, which is an opinion rather than a fact about immigrants to North America?

Immigrants

1. traveled long distances to find a better life
2. migrated to find employment
3. learned to live in a foreign culture
4. escaped from political persecution.
5. found a better life

Questions 3 and 4 refer to the following cartoon:



Source: No—That "S" Stands for Senior Power! Arthur Henderson, Arlington Heights (Ill.) Daily Herald, 1969. Reprinted with permission.

3. What is the main idea represented by the artist of the cartoon?
1. Congress cannot pass legislation on health issues.
  2. Hatred exists between Congress and senior citizens
  3. Senior citizens are a powerful interest group.
  4. Older people are healthier and stronger than the generation before them.
  5. Senior citizens favor Congress over the president.
4. Which political and economic assumption does the cartoon suggest is held by U.S. senior citizens?
1. Seniors are entitled to certain social insurance programs.
  2. Seniors do not contribute to the economic productivity of the nation.
  3. Entitlements should be cut within the federal budget.
  4. Senior should lobby at the state level of government, not the federal level.
  5. Social insurance programs can only be paid for by higher taxes.

Question 5 refers to the following chart:

Computer Stores: Customer Satisfaction Report				
PERCENTAGE OF SATISFIED CUSTOMERS				
Computer Store	Type Computer Sold	Variety of Products	Service Promptness	Reliable Advice
AAA Business	Brand A Brand B Brand C Brand D	100%	96%	71%
Operating Systems	Brand D Brand E Brand F	83%	69%	78%
Programs 'N Stuff	Brand A Brand C Brand D	92%	79%	80%
Technodazzle	Brand G	67%	100%	95%
Compu-Wonder	Brand B Brand C Brand F	100%	89%	76%

Source: Adapted from *Washington Consumers' Checkbook*, 1990.

5. Some people think that stores that sell fewer brands of computers provide faster service than stores that sell a wider variety of brands.

What information from the chart supports this idea?

1. AAA Business - 96% service promptness
  2. Operating Systems - 69% service promptness
  3. Programs 'N Stuff 79% service promptness
  4. Technodazzle - 100% service promptness
  5. Compu-Wonder - 89% promptness
6. "We hold these Truths to be self-evident, that all Men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these rights are Life, Liberty, and the pursuit of Happiness."

Which of the following political actions violated the principle of "unalienable Rights" of liberty that evolved from the above excerpt of the U.S. Declaration of Independence?

1. In 1857, a U.S. Supreme Court ruling promoted the expansion of slavery in U.S. territories.
2. In 1870, the Fifteenth Amendment to the Constitution outlawed the practice of denying the right to vote because of race, color, or previous condition of servitude
3. In 1920, the Nineteenth Amendment to the Constitution granted women the right to vote nationwide.
4. In 1964, the Civil Rights Act outlawed racial discrimination in employment and public accommodations.
5. In 1971, the Twenty-sixth Amendment to the Constitution extended the right to vote to 18-year-old citizens.

Answers to these sample questions are also available on the [Answers page](#).

## GED Sample Test Questions

### Language Arts: Reading

The *Language Arts, Reading Test* contains 40 multiple-choice questions that measure your ability to comprehend and interpret workplace and academic reading selections and to apply those interpretations to new contexts. The questions ask you to understand, apply, analyze, and synthesize information that you are given in the reading selections.

Literary texts constitute 75% of each test and include at least one selection from each of the following areas:

- Poetry
- Drama
- Prose fiction before 1920
- Prose fiction between 1920 and 1960
- Prose fiction after 1960

Nonfiction texts constitute 25% of each test and include two selections of nonfiction prose from any two of the following areas:

- Nonfiction prose
- Critical review of visual and performing arts
- Workplace and community documents, such as mission and goal statements, rules for employee behavior, legal documents, and communications (for example, letters and excerpts from manuals)

The reading selections in the *Language Arts, Reading Test* range from 200 to 400 words, with poetry running from 8 to 25 lines. A purpose question appears in bold before each selection; the question is designed solely to help you focus and provide a purpose for reading the text. You are not asked to answer the purpose question. Each selection is followed by four to eight questions.

### SAMPLE QUESTIONS

**Directions:** Choose the *one best answer* to each question.

*Questions 1 through 8* refer to the following document:

#### How Shall Employees Conduct Themselves?

##### Guidelines for Conducting Business with Those outside Our Company

Our employees are the most effective advertisement of our values, beliefs, and abilities. Always keep in mind that when you are acting in your capacity as our employee, you are contributing materially to the public image and the ultimate success of this company.

(5) **Gifts for Influence**

No payment or gift of money, goods, or services should be given or received to influence government or business decisions. Accurate and complete records for all accounts will be strictly moni-

tored for everyone's protection.

If it becomes apparent to you in the course of the performance of your business responsibilities that a

- (10) payment of some kind is expected by your business associate, please contact your division president.

### **Conflict of Interest**

A conflict of interest can be described as a situation where a person has a vested interest in two areas of the business world that may give him or her an unfair advantage in business dealings.

- (15) Our employees should be sensitive to any relationship that creates such a relationship—or even creates the appearance of such a relationship.

#### **Keep these rules in mind:**

- Throughout your employment period, be vigilant about potential conflicts of interest between this company's interests and your personal or immediate family's interests.
  - Don't use your position with this company to obtain a personal benefit of any kind.
- (20) • Avoid any action or relationship that creates, or even creates the appearance of, a conflict of interest. For example, having an interest in a nonpublic company that competes or does business with our company or any of its affiliates might create the appearance of a conflict of interest and might prompt accusations and/or an investigation.

### **Disclosure**

- (25) This company respects your privacy, as well as your right to conduct your personal affairs without interference; however, you must make prompt, complete, and continuing disclosure of all facts relating to any factual or potential conflict of interest.

### **Investigations**

- (30) Inquiries or investigations may be undertaken at this company's direction by its attorneys, investigators, internal auditors, or independent public accountants. Employees should regard this vigilance as the company's commitment not only to fair competition but also to the protection of its employees. Your cooperation is needed for your protection as well as that of this company, and it is a condition of your employment.

*This excerpt is a composite of information from several business documents.*

1. Based on the information in this excerpt, what would be the company's policy about accepting gifts or entertainment from people representing your competitors?

Accepting gifts or entertainment from people representing competitors would be considered

1. dangerous
2. practical
3. reasonable
4. unacceptable
5. good business

2. Based on the information in this excerpt, when is it permissible to give money that might be considered a bribe or a tip to a government official in order to facilitate business?
  1. It is never permissible to give a gift or other payment to influence government or business decisions.
  2. It may be necessary in certain foreign countries where it is expected.
  3. Payments to government officials can be made at any time with prior approval of the division president.
  4. Modest gratuities can be offered at any time.
  5. All payments or gratuities must be worth their fair trade value.
  
3. What is the meaning of the phrase "or even creates the appearance of" (lines 14–15)?
  1. an actual conflict of interest
  2. a conflict between the company's interests and your personal or immediate family's interest
  3. a situation that is not truly a conflict of interest but may appear to be
  4. the company's high standards for employee personal appearance and behavior
  5. a situation that is within your personal affairs
  
4. What is an example of a conflict of interest?
  1. Your cousin works for the same company.
  2. You have given gratuities to foreign government officials.
  3. You often meet with the employee's union representative.
  4. You have cheated on your income tax.
  5. Your spouse owns stock in one of the company's competitors.
  
5. While this excerpt is discussing a very serious topic, it tries to maintain a feeling of sincere interest in the employee.

Which of the statements below most clearly reflects that feeling?

1. "No payment or gift of money, goods, or services should be given or received to influence government or business decisions" (line 6-7).
  2. "...records for all accounts will be strictly monitored..." (lines 7-8)
  3. "Don't use your position with this company to obtain a personal benefit or any kind" (line 19).
  4. "This company respects your privacy, as well as your right to conduct your personal affairs without interference" (lines 25-26).
  5. "Your cooperation...is a condition of your employment" (lines 32-33).
6. How is this excerpt organized?
    1. statements of fact supported by personal stories
    2. specific topics followed by explanations
    3. rules for behavior supported by warnings of consequences
    4. general policy statement without specific performance standards
    5. debate of public versus personal philosophies
  
  7. Earlier in this document, the company describes how employees of this company are to behave toward each other. It includes a statement about complete and enforced intolerance for discrimination in any form.

Based on this information and the information in this excerpt, why might a potential employee want to read all this company's rules and regulations for employee behavior carefully?

1. One mistake with this company could cost an employee his or her job.

2. Competitors have several options for securing their rights
  3. Employees and their managers must interact carefully.
  4. Unfair labor practices will not be tolerated.
  5. This company has high expectations for employee behavior
8. If you were running this company and you wanted to hire someone to enforce these rules, what primary characteristic would you want in this potential employee?
1. knowledge about the company's product
  2. honesty and integrity
  3. communication skills
  4. human relations skills
  5. familiarity with your employee

Answers to these sample questions are also available on the [Answers page](#).

## GED Sample Test Questions

### Science

The *Science Test* consists of 50 multiple-choice questions in the following content areas:

Physical Science (physics and chemistry) (35%)

Life Science (45%)

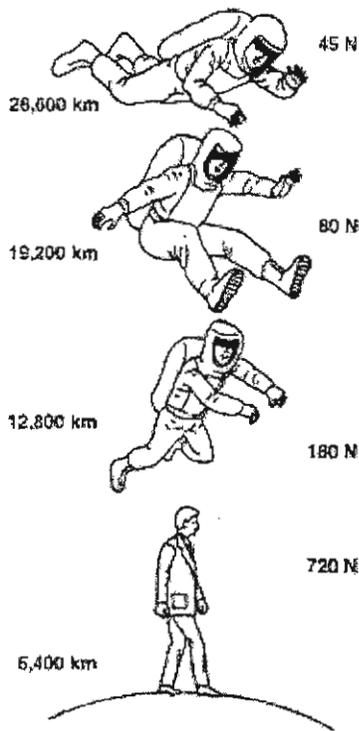
- Earth and Space Science (20%)

Test questions require you to understand, interpret, or apply information that is provided on the test or that is learned through life experience. The information may be a paragraph, chart, table, graph, map, or figure.

### SAMPLE QUESTIONS

**Directions:** Choose the *one best answer* to each question.

1. **An Astronaut Floating in Earth's Atmosphere**



Source: Tracy et al., *Modern Physical Science* (Holt, Rinehart, and Winston, 1974), 285.

Question 1 refers to the following cartoon:

The closer we get to Earth's surface, the stronger the force of Earth's gravity becomes. This force of gravity (measured in Newtons, or N) has a much stronger effect on an individual on Earth's surface than on someone who is thousands of kilometers above Earth's atmosphere. (Note: One kilometer equals 0.6 mile.)

Which of the following statements best describes the force of gravity's effect on an astronaut floating more than 30,000 kilometers above Earth's surface?

Gravity's effect

1. is the same as on Earth
2. is much less than on Earth's surface
3. is significantly affected by weather conditions
4. varies with the astronaut's age, diet, and physical condition
5. would be less on an astronaut than on people in other occupations

2. Clay soil forms a fairly effective barrier against the movements of water. It also swells and shrinks significantly as its water content changes. Sandy soil, in contrast, allows water to move freely and does not change shape as the water content varies.

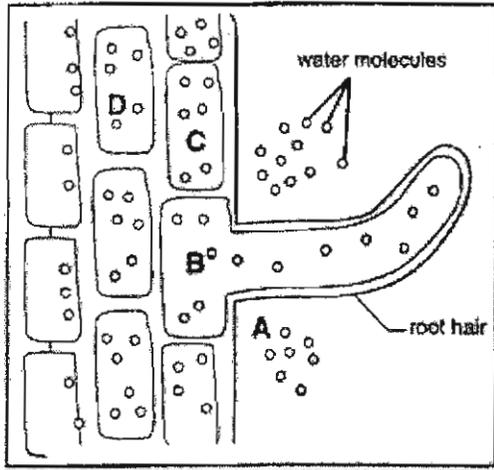
In which statement is the appropriate soil selected for its intended site?

1. Sandy soil would make a good lining for a toxic waste site.
2. Clay soil would work well in a drain field.
3. Clay soil would be a good foundation for a large building.
4. Clay soil would form a good liner if a person built a pond.
5. A sandy lake bottom would prevent water from seeping out of the lake.

3. The root hair of a plant, shown in the diagram below, is the most efficient way for the plant to

**Root Hair Growing  
among a  
Plant's Root Cells**

absorb water from surrounding soil.



At what point is the flow of water the **GREATEST**?

1. C to B
2. C to A
3. D to B
4. A to B
5. D to C

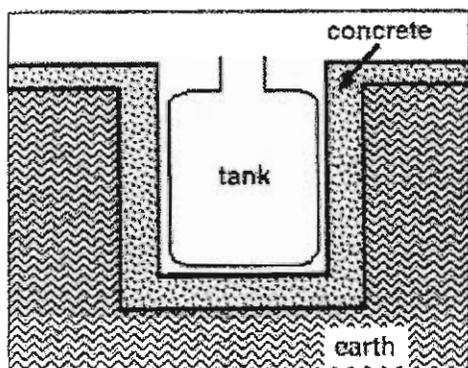
4. A cook decides to recover some table salt that has been completely dissolved in water. Which of the following processes would be the most effective method of extracting salt from the solution?

1. spinning the solution in a mixer
2. boiling away the water
3. pouring the solution through cloth
4. dripping the solution through a paper filter
5. bubbling oxygen through the solution

5. **Question 5** refers to the following chart:

A large fiberglass tank was placed in a pit, as shown below. Before pipes could be attached and the tank filled with gasoline, however, the workers were asked to move the heavy tank to another

### Buoyancy and a Tank

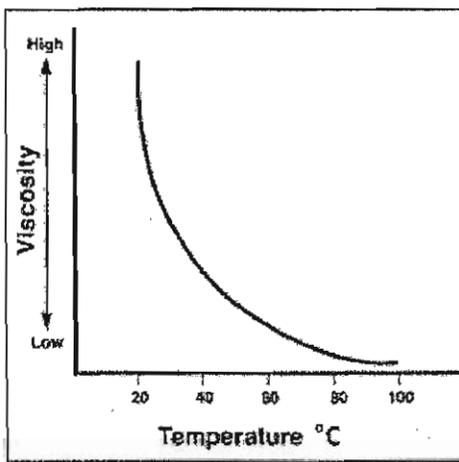


location.

Which of the following methods would be the best way to raise the tank off the bottom of the pit so that cables could be placed under the tank?

1. Fill the tank with gasoline.
  2. Fill the tank with water.
  3. Fill the pit with water.
  4. Fill the pit with water and fill the tank with gasoline.
  5. Fill both the pit and the tank with water.
6. Viscosity is a measure of the internal resistance of a fluid to flow. For example, motor oil is more viscous than water. The viscosity of a fluid will change with temperature. The graph below illustrates how the viscosity of oil changes with temperature.

### Effect of Temperature on Viscosity



Under which situation will the viscosity of the oil increase?

1. as temperature decreases
2. when mixed with water
3. as its volume decreases
4. as its flow increases

5. if its resistance stabilizes

Answers to these sample questions are also available on the Answers pages.



## GED Sample Test Questions Mathematics

The *Mathematics Test* is divided into two equally weighted parts, each containing 25 questions. On Part I of the test, you may use the *Casio fx-260* calculator to compute answers. A calculator will be provided for your use at the official GED Testing Center. Because estimation and mental math are critical skills, you are not permitted to use the calculator on Part II of the test. A [math formulas page](#) is provided for your reference during the test.

The *Mathematics Test* assesses your understanding of mathematical concepts and the application of those concepts to various real-world situations. The following four major areas are tested on the *Mathematics Test*:

- Number operations and number sense (20%–30%)
- Measurement and geometry (20%–30%)
- Data analysis, statistics, and probability (20%–30%)
- Algebra, functions, and patterns (20%–30%)

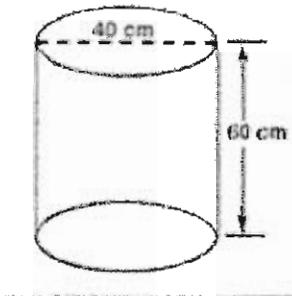
### Alternate-Format Questions

Although 80% of the mathematics questions are multiple choice, 20% of the questions require you to construct your own answer. Rather than select from five choices, you must record answers on either standard or coordinate plane grids. Both Parts I and II of the *Mathematics Test* have multiple-choice, standard grid, and coordinate plane grid questions. [Please review the directions](#) for standard grid and coordinate plane grid.

### SAMPLE QUESTIONS

**Directions:** Choose the *one best answer* to each question.

1.

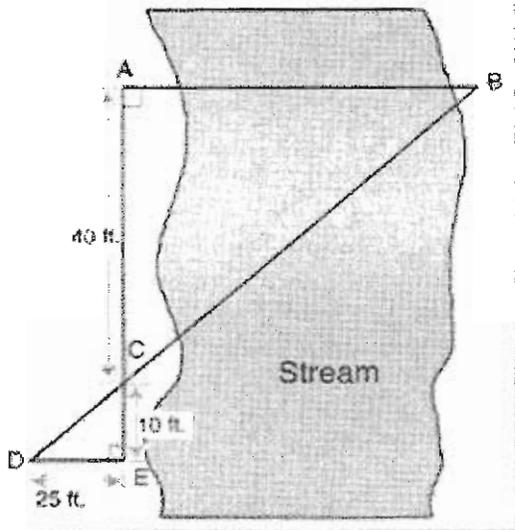


A painter mixes gallons of paint in a large cylindrical bucket so that there will be no difference in color among individual gallons.

If one gallon of paint has a volume of approximately  $8000 \text{ cm}^3$ , what is the maximum number of whole gallons of paint that can be poured into the bucket?

- 1.3
- 2.7
- 3.9
- 4.11
- 5.37

2. A surveyor made the measurements shown in the diagram below.



What is the measure, in feet, of AB, the straight-line distance across the stream?

1. 50
2. 75
3. 80
4. 100
5. 150

3.

Length of window in feet	Width of window in feet	Price per foot of wood trim	Cost of trim for window
<b>A7</b>	<b>B7</b>	<b>C7</b>	

Shane is working with a spreadsheet on his computer. The spreadsheet will calculate the cost of the wood trim around rectangular windows based on the dimensions of the window and the price of the wood. The following entries have been made.

Shane wants to enter a formula in the last column so that the spreadsheet will calculate the final cost of the job. Which of the following formulas should he enter?

1.  $A7 \times B7 \times C7$
2.  $(2 \times A7 + 2 \times B7) \times C7$
3.  $A7 + B7 + C7$
4.  $(A7 + B7) \times C7$
5.  $A7 \times B7 + C7$

*Note: The following question is a specific example of questions likely to be found on the Mathematics Test, Part I, which allows the use of a calculator.*

4. Last month, the balance in Tisha's checkbook was \$1219.17. Since then she has deposited her latest paycheck of \$2425.66 and written checks for \$850.00 (rent), \$235.89 (car payment), and \$418.37 (credit card payment).

What is the current balance in Tisha's checking account?

1. \$921.40
2. \$2140.57
3. \$3215.27
4. \$3929.92
5. \$5149.09

5. Byron purchased a \$5000 certificate of deposit (CD) at his local bank. The CD will pay him 7% simple interest at the end of 2 years.

How much **INTEREST**, in dollars, will Byron have earned from his CD at the end of the 2-year period?

Select which of the following alternate-format answers is correct.

1. A

- 2. B
- 3. C
- 4. D
- 5. E

A	B	C	D	E
<input type="text" value="70"/>	<input type="text" value="14"/>	<input type="text" value="700"/>	<input type="text" value="350"/>	<input type="text" value="979"/>
<input type="text" value="0000"/>				
<input type="text" value="1111"/>				
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<input type="text" value="3333"/>				
<input type="text" value="4444"/>				
<input type="text" value="5555"/>				
<input type="text" value="6666"/>				
<input type="text" value="7777"/>				
<input type="text" value="8888"/>				
<input type="text" value="9999"/>				

6. One ingredient in the sauce Kyle is preparing for tonight's dinner is half a teaspoon of red pepper. If the recipe he is using is designed to make enough sauce for 8 servings, but Kyle is only making 4 servings, what fraction of a teaspoon of red pepper should he use?

Select which of the following alternate-format answers is correct.

- 1. A
- 2. B
- 3. C
- 4. D
- 5. E

A	B	C	D	E
<input type="text" value="1/6"/>	<input type="text" value="1/2"/>	<input type="text" value="1/4"/>	<input type="text" value="50"/>	<input type="text" value="1/8"/>
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<input type="text" value="1111"/>				
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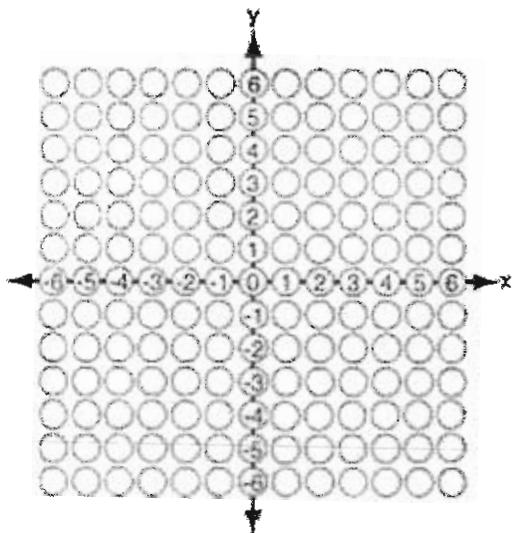
Note: In the last two responses, a decimal answer and a fraction were gridded. Mixed numbers such as  $3 \frac{1}{2}$  cannot be gridded. They must be changed to a decimal or fraction form. In the case of  $3 \frac{1}{2}$ , the answer could be gridded as 3.5 or as  $\frac{7}{2}$ .

The answer for an alternate-format question using the standard grid shown in the previous two examples will NEVER be a negative number, such as -8, since the grid does not accommodate negative numbers.

Both of the points mentioned above are included in the directions for alternate-format questions found in the actual GED Tests.

7. Show the location of a point whose coordinates are  $(3, -4)$  by using the below coordinate plane grid to get your answer.

[Click here to see the correct answer.](#)



## Language Arts, Writing

- 1. Answer 3:** The use of the original verb form, “have resulted,” implies that the applicant and the employer have already been working together. However, because the applicant is actually seeking employment, it is clear that he has not worked with this company before. The verb form “would result” effectively conveys the possibility for a profitable future relationship for both if the applicant were to be hired.
- 2. Answer 5:** This question requires you to identify the sentence fragment and revise it so that the resulting sentence (which combines the first sentence and the fragment) is structured more effectively.
- 3. Answer 2:** In the original sentence, the words between the commas separate main sentence parts, thereby interrupting the clear flow of ideas. By moving the distracting words to the beginning of the sentence and following with “I will be able...,” the relationship of holding the position and being able to put skills and knowledge into practice is clarified.
- 4. Answer 4:** This question requires you to recognize that paragraph B needs a topic sentence. You must refer to the entire paragraph to select the most effective topic sentence. In organizational questions of this type, all five alternatives are grammatically correct, but because of problems in tone or content, only one alternative is appropriate.
- 5. Answer 3:** In this list of three categories that appear on the applicant’s resume, a comma must be used to separate the first and second items.
- 6. Answer 1:** This organizational question requires you to study the entire document to determine where an effective paragraph break should occur. A paragraph starting with sentence 3 would clearly summarize and highlight the applicant’s educational and professional qualifications.

## Social Studies

- 1. Answer 4:** This application question requires you to focus on a universal immigration issue that is related to the information but newly introduced by the question. It is a general case of a concrete situation that faces all countries—the regulation of immigration to a country. The concept of scarcity (4) is the only logical reason for restrictions among the alternatives offered.
- 2. Answer 5:** (1), (2), (3), and (4) are all facts stated or implied in the passage. (5) is what many immigrants have hoped for, but whether they have found a better life is unknown.
- 3. Answer 3:** This comprehension question requires you to interpret the symbolic meaning of the person wearing the cape and to understand the meaning of the words between the two legislators in the cartoon. The answer shows the connection between cartoon superheroes and politics in the United States—senior citizens in the United States had considerable political clout at the time this cartoon was printed.
- 4. Answer 1:** This analysis question requires you to understand that senior citizens have responded unfavorably to certain congressional plans that deal with federally funded health and welfare insurance programs that affect seniors’ lives. You must know that a powerful political lobby exists in the United States that supports seniors’ desire for federal support for social insurance programs. There is insufficient or contradictory evidence in the cartoon regarding (2), (3), (4), and (5).
- 5. Answer 4:** This evaluation question requires you to understand how to read the results of a customer survey. You must also recognize information that supports the correct generalization that customers tend to perceive that they receive faster service from businesses that sell fewer brands of a certain product (in this case, computers). Technodazzle satisfies

100% of its customers for service promptness—more than any other—and it sold only one brand of computer (4). All of the other companies (1), (2), (3), and (5) scored lower in service promptness and sold more brands of computers than Technodazzle. Technodazzle shoppers also rated the company higher in the “reliable advice” category than did the other shoppers in their experiences at other stores.

6. Answer 1: This application question requires the candidate to read and understand a short excerpt from the U.S. Declaration of Independence. The candidate must understand the meaning of “unalienable Rights” in the document and determine which, among several political actions taken by the U.S. government, have elements that deny the right to “Life, Liberty, and the pursuit of happiness.” Slavery, though legal at the time and upheld by the U.S. Supreme Court, denied liberty and political rights to many blacks in the United States and its territories in 1857 (1). The Fifteenth (2), the Nineteenth (3), and the Twenty-sixth (5) Amendments to the U.S. Constitution, and the 1964 Civil Rights Act (4) actually extended political rights to more and more people in the United States.

### Language Arts, Reading

1. Answer 4: The clear statement in this section of the excerpt—“Gifts for Influence”—is that this kind of business dealing is unacceptable to this company.

2. Answer 1: This level of comprehension question is slightly more difficult than the previous question because the answer is implied but not stated. Alternatives (2) and (3) are distractors requiring that you read the passage with accuracy and precision.

3. Answer 3: This analysis question requires you to closely read a specific line in the text integrated with the content.

4. Answer 5: This question requires you to analyze the rules about conflict of interest to conclude that alternative (5) would be an example of this issue.

5. Answer 4: With the exception of alternative (4), all of the other alternatives use a similar instructional tone as in most of the excerpt. Alternative (4) is the only example of the milder language that appears occasionally in the excerpt to soften the strong tone.

6. Answer 2: The strongest distractor for this question is alternative (3) because it references “rules for behavior,” which is an attractive choice. However, the excerpt does not contain any warnings or consequences, which the second half of this distractor mentions.

7. Answer 5: This is another example of a synthesis question. As described in Question 7, the stem of the question gives an additional piece of information that you must consider with the information from the passage. In this case, the new information covers a completely different area of employee behavior. The conclusion must be drawn that the company is very strict about employee behavior in at least these two discrete areas. The clear implication is that employees are probably held to high expectations in all areas, and a prudent prospective employee might want to be forewarned with this information.

8. Answer 2: The stem for this question casts the excerpt in a completely new light. Now you must consider the rules from the point of view of the owner who wishes to enforce them, rather than the employee who wishes to obey them. Furthermore, the employer wants to identify a person to enforce the rules and is considering the characteristics that person must possess.

## Science

- 1. Answer 2:** The force of Earth's gravity lessens rapidly as an object (for example, an astronaut) gets farther from Earth's center. This force of gravity is not affected significantly by weather conditions or the astronaut's physical characteristics or occupation.
- 2. Answer 4:** Clay soil absorbs and holds more water than sandy soil. Its ability to swell or shrink as the water content changes should help to maintain the pond by retaining more water. Because of its shifting characteristics, clay soil would not be a good choice for building a stable foundation.
- 3. Answer 4:** In osmosis, water flows through a cell membrane in the direction of a higher concentration of water molecules to a lower concentration. In this example, the highest initial concentration of water molecules is located in area A, the soil, and the lowest concentration of water molecules is found in area B—the large root hair. The process of osmosis will continue from area A to B until the concentration of water molecules is balanced between the root hair and the soil.
- 4. Answer 2:** In a salt solution, microscopic particles of salt will pass through either a cloth or paper filter and will be unaffected by bubbling or spinning in a mixer, making (1), (3), (4), and (5) incorrect. Only (2)—boiling the water—will leave a salty residue on the original container.
- 5. Answer 3:** To be buoyant, an object must displace an amount of liquid at least equal to its weight. Any action that makes the tank heavier than the weight of the liquid it displaces will prevent the tank from floating. All the alternatives except (3) will make the tank heavier than the weight of the liquid displaced. Therefore, only (3) will allow the tank to float off the bottom of the pit.
- 6. Answer 1:** The viscosity of a liquid—its internal resistance to flow—is closely related to its temperature. As a liquid's temperature decreases, and it gets colder, the viscosity of that liquid will increase. Only alternative (1) mentions temperature as a factor.

## Mathematics

*For additional information about preparing for the Mathematics Test, please review the Formulas page, the page on Using the Calculator, and the Alternate Formats page.*

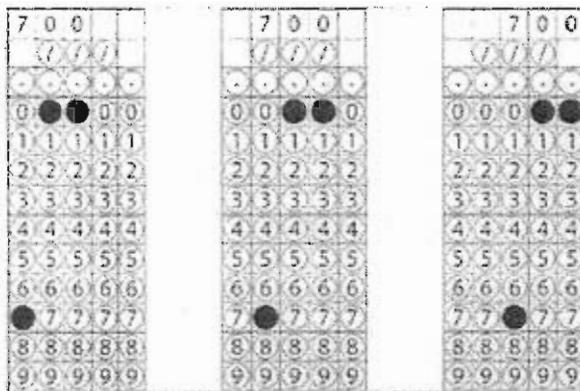
**1. Answer: 3.** The Math formulas page will be helpful for this question. You must use the appropriate formula for the volume of a cylinder and recognize that its radius is half of the diameter shown. Once the volume is computed that answer is divided by 8000. Since only whole gallons are to be poured into the bucket the quotient is rounded **down**. The concept of rounding up or down (as appropriate to a particular situation) to produce a whole-number answer is an important one for you to understand.

$$\text{Volume of bucket: } (3.14) \times (20)^2 \times (60) = 75,360 \text{ cm}^3$$

$$75,360 \div 8000 = 9.42 \text{ gallons}$$

*The answer is rounded **down** because 10 whole gallons would not fit. Final answer: 9 gallons.*

**2. Answer: 4.** You must recognize similar triangles in the diagram and set up the correct proportion, which could be



$$\frac{AC}{EC} = \frac{AB}{ED}$$

expressed as:  
 Letting AB be represented by  $x$  and substituting the other measure from the diagram, the proportion is then solved for the unknown

$$\frac{40}{10} = \frac{x}{25}$$

measure:  
 Cross-multiplying:  $10x = 1000$

Dividing by 10:  $x = 100$

The final answer is 100 feet.

**3. Answer: 2.** You must recognize that the perimeter of the rectangle must be found and multiplied by the cost per foot of the trim used. The cell locations become the variables in the formula.

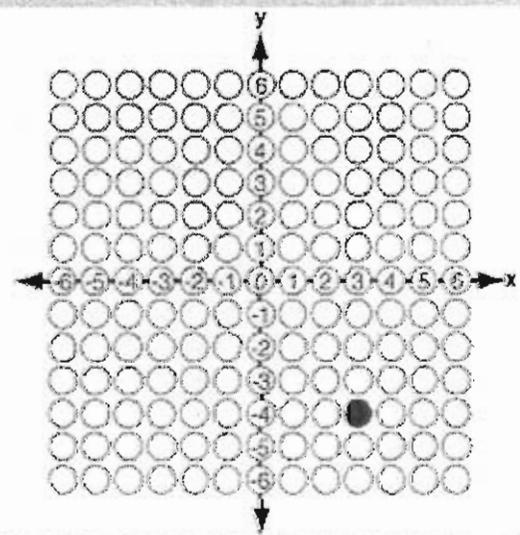
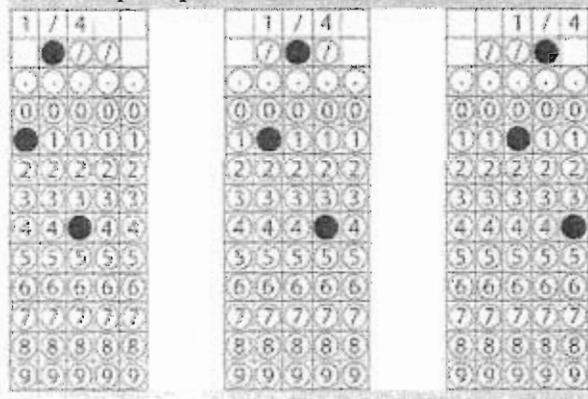
*(perimeter of rectangular window) times (price per foot of wood trim)*  
 $(2 \times \text{length} + 2 \times \text{width}) \times \text{price per foot}$   
 $(2 \times A7 + 2 \times B7) \times C7$

**4. Answer: 2.** The paycheck would be added to the existing balance, and the checks written would be subtracted. The realistic amounts in the question would require considerable time for the arithmetic to be done by hand, but the values can be entered into the calculator in one continuous string as they are presented in the expression.

$\text{New balance} = \text{Old balance} + \text{paycheck}$   
 $\text{deposited} - \text{checks written}$   
 $\text{New balance} = 1219.17 + 2425.66 - 850.00$   
 $- 235.89 - 418.37$   
 $\text{New balance} = \$2140.57$

**5. Answer: 700.** The formula for simple interest is found on the [Formulas page](#). This page is also available in the front of the Mathematics Test.

$\text{interest} = \text{principal} \times \text{rate} \times \text{time}$



*simple*  
*simple interest = \$5000:*  
 $0.07 \times 2$   
*simple interest =*  
 $\$700$   
 Alternate-format responses can be right-, left-, or center-justified, as

shown in the examples below.

Note that mixed numbers such as  $3 \frac{1}{2}$  cannot be gridded. They must be changed to a decimal or fraction form. In the case of  $3 \frac{1}{2}$ , the answer could be gridded as 3.5 or as  $\frac{7}{2}$ .

## FORMULAS

### AREA of a:

square	Area = side <sup>2</sup>
rectangle	Area = length × width
parallelogram	Area = base × height
triangle	Area = $\frac{1}{2}$ × base × height
trapezoid	Area = $\frac{1}{2}$ × (base <sub>1</sub> + base <sub>2</sub> ) × height
circle	Area = $\pi$ × radius <sup>2</sup> ; $\pi$ is approximately equal to 3.14.

### PERIMETER of a:

square	Perimeter = 4 × side
rectangle	Perimeter = 2 × length + 2 × width
triangle	Perimeter = side <sub>1</sub> + side <sub>2</sub> + side <sub>3</sub>

### CIRCUMFERENCE of a circle

Circumference =  $\pi$  × diameter;  $\pi$  is approximately equal to 3.14.

### VOLUME of a:

cube	Volume = edge <sup>3</sup>
rectangular solid	Volume = length × width × height
square pyramid	Volume = $\frac{1}{3}$ × (base edge) <sup>2</sup> × height
cylinder	Volume = $\pi$ × radius <sup>2</sup> × height; $\pi$ is approximately equal to 3.14.
cone	Volume = $\frac{1}{3}$ × $\pi$ × radius <sup>2</sup> × height; $\pi$ is approximately equal to 3.14.

### COORDINATE GEOMETRY

distance between points =  $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ ;  
 $(x_1, y_1)$  and  $(x_2, y_2)$  are two points in a plane.

slope of a line =  $\frac{y_2 - y_1}{x_2 - x_1}$ ;  $(x_1, y_1)$  and  $(x_2, y_2)$  are two points on the line.

### PYTHAGOREAN RELATIONSHIP

$a^2 + b^2 = c^2$ ; a and b are legs and c the hypotenuse of a right triangle.

### MEASURES OF CENTRAL TENDENCY

mean =  $\frac{x_1 + x_2 + \dots + x_n}{n}$ , where the  $x$ 's are the values for which a mean is desired, and  $n$  is the total number of values for  $x$ .

median = the middle value of an odd number of ordered scores, and halfway between the two middle values of an even number of ordered scores.

### SIMPLE INTEREST

interest = principal × rate × time

### DISTANCE

distance = rate × time

### TOTAL COST

total cost = (number of units) × (price per unit)