



# **Student Handbook 2000**

**First Edition**

# **North Carolina High School Exit Exam**

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**Public Schools of North Carolina**  
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## Introduction

In April 1999, the North Carolina State Board of Education established the Student Accountability Standards. These standards provide four Gateway Standards for student performance at grades 3, 5, 8, and 12. One Gateway Standard established by the State Board requires students to pass an “exit exam of essential skills” as one of the conditions for earning a North Carolina high school diploma. This requirement is in effect for students graduating in 2003 and beyond.

The North Carolina High School Exit Exam will be administered for the first time to 11th graders in the spring of 2002. Students who do not meet the standards for passing the exit exam will be given focused intervention instruction and will have additional opportunities to take the exit exam during the 12th grade year.

The North Carolina High School Exit Exam assesses students’ proficiency in four competency areas or tests: (1) Communication, (2) Processing Information, (3) Problem Solving, and (4) Using Numbers and Data. Each test measures a list of learning objectives that are addressed in the required content areas of the North Carolina *Standard Course of Study*:

- English, reading, and grammar
- Mathematics (up to and including Algebra I)
- Science (including Biology)
- Social Studies (including Economic Legal and Political Systems (ELPS) and U.S. History)

The learning objectives measured by each of the tests are also addressed in the other content areas of the state-mandated curriculum.

This handbook has been prepared as a resource for students, parents, and teachers to provide information about the North Carolina High School Exit Exam requirement and its implications for students as a graduation standard. In addition, this handbook provides information on what the tests are like, sample questions that measure the learning objectives, and some test-taking strategies. The information contained within this document is designed to assist the targeted group in acquiring a better understanding of the North Carolina High School Exit Exam requirement as a standard students must meet in order to receive a North Carolina high school diploma.

## I. Questions About the North Carolina High School Exit Exam

**What is the North Carolina High School Exit Exam?**

The North Carolina High School Exit Exam is an examination of essential skills. It is designed to measure knowledge and skills students should possess upon graduation from high school. Possession of these skills assures that North Carolina graduates can function independently and successfully in assuming responsibilities related to the workforce, citizenship, and lifelong education.

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**How does the Exit Exam differ from the End-of-Course Test?**

The Exit Exam is an integrated assessment that focuses on the goals and objectives from the North Carolina *Standard Course of Study*. It incorporates content that extends across many grades and courses. This examination requires students to think in a broad manner by applying the major concepts they have learned.

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**Which students are required to take the Exit Exam?**

Students will take this exam for the first time in the spring of the students' 11th grade year. This requirement shall apply to students who entered the 9th grade for the 1999–2000 school year.

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**Is the Exit Exam divided into different parts?**

Each student must take four multiple-choice tests. The tests are: (1) Communication, (2) Processing Information, (3) Problem Solving, and (4) Using Numbers and Data.

**How, when, and where will I take the North Carolina High School Exit Exam?**

The tests will be administered at your school over several days. There is no fee associated with taking this test.

A school counselor or teacher will tell you about the test schedule at your school.

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**What kind of materials may I use to take the North Carolina High School Exit Exam?**

You will be given a graphing calculator and blank paper when taking each of the four tests.

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**How will I know if I have met the North Carolina High School Exit Exam requirements?**

When the scores are returned, your school counselor or a teacher will let you know if you have met the North Carolina High School Exit Exam requirements. You are required to pass all four tests to receive a high school diploma.

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**What if I don't pass the tests in the 11th grade?**

You will be given additional opportunities beginning with the summer following the completion of your 11th grade year to take the tests. Your school will provide you with the opportunity to receive extra instructional assistance to develop your skills.

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**What if I pass some, but not all, of the tests of the exit exam?**

You will only need to re-take the test(s) that you did not pass until you have passed all four of the tests.

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**If I am a student with special needs will I get extra time to take the test?**

Students with disabilities may be able to have accommodations, including extra time. The accommodation must be used routinely during instruction and similar classroom tests. Your Individualized Education Program (IEP) or Written Accommodation Plan will note which accommodations you will be able to use when taking the Exit Exam.

**If I am a student who is limited English proficient will I get extra time to take the tests?**

Students who speak English as a second language may be able to have accommodations, including extra time. The accommodation must be used routinely during instruction and similar classroom tests. Your school counselor can provide you with more information about accommodations.

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**Will the same test be given every year?**

Different forms of the North Carolina High School Exit Exam will be given each testing session. However, the learning objectives measured and the difficulty levels of the different forms will be the same.

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**How does this handbook help me prepare for the exit exam?**

This handbook provides examples of the types of items you will see on the exam as well as general test-taking strategies. Review the sample test questions. Check your answers. If you have questions or feel you need help, contact your school counselor or a teacher.

## II. Contents of the North Carolina High School Exit Exam

The exit exam, which consists of multiple-choice questions, is divided into a series of four tests. Each test of the exit exam will contain approximately 60–80 questions, as illustrated in the following table, and will take about two hours to complete. Students will be required to pass each of the four tests for graduation.

<b>Tests of the Exit Exam</b>	<b>No. of Learning Objectives</b>	<b>No. of Items</b>
Communication Test	8	60–80
Processing Information Test	6	60–80
Problem Solving Test	7	60–80
Using Numbers and Data Test	5	60–80

A variety of strategies will be used on the exit exam to determine what students know and are able to do. Many of the test questions will be based on scenarios, some of which will use multiple prompts that relate to a theme or situation. For example, the test that assesses problem solving skills may require students to read a map that includes population data and a related passage. Students would then answer questions related to the map, data, and passage. The questions will require students to analyze problems and identify potential solutions based on the learning objectives of the test. Similarly, the test that assesses communication skills may include questions about a scientific passage with tables of information that require students to evaluate and analyze the material.

The questions used on each test will reflect a variety of disciplines to maximize student interest. All questions will be matched to one of the exit exam’s 26 learning objectives. The measured learning objectives are linked to required content in the North Carolina *Standard Course of Study*. More information on each of the test follows.

### Communication

The North Carolina High School Exit Exam — Communication Test assesses your ability to critically evaluate and analyze printed material, as well as to understand and accurately apply the rules of standard English. The following eight learning objectives are measured on this test (the approximate percentage of items measuring each learning objective is listed in parentheses):

You will be required to:

- apply rules of standard English to written text. (13%)
- use main ideas and supporting details to organize and communicate information. (12%)

- evaluate ideas and information to make informed decisions. (13%)
- listen carefully and thoughtfully to understand, evaluate, and synthesize information. (12%)
- evaluate information by recognizing the author’s purpose to draw conclusions or make informed decisions. (12%)
- evaluate information to detect bias or vested interest. (13%)
- follow instructions to draw conclusions or make informed decisions. (13%)
- detect fact, propaganda, and opinion to make informed decisions. (12%)

## Processing Information

The North Carolina High School Exit Exam — Processing Information Test requires you to process multiple types of data and to interpret, analyze, synthesize, and make appropriate inferences, predictions, or plans. The following six learning objectives are measured on this test (the approximate percentage of items measuring each learning objective is listed in parentheses):

You will be required to:

- analyze information by comparing, contrasting, and summarizing to make informed decisions. (16%)
- use patterns, relationships (e.g., cause and effect relationship), and trends to draw inferences and make predictions concerning environmental and social outcomes. (18%)
- synthesize information from several sources to apply that information to a new situation. (17%)
- organize tasks to accomplish an objective (e.g., scientific investigations). (11%)
- evaluate information, explanations, or ideas by identifying and applying criteria to draw conclusions or make predictions. (19%)
- interpret multiple sets of data to determine the best course of action. (19%)

## Problem Solving

The North Carolina High School Exit Exam — Problem Solving Test requires you to analyze and evaluate problems in a variety of scenarios and to identify potential solutions or choices. The following seven learning objectives are measured on this test (the approximate percentage of items measuring each learning objective is listed in parentheses):

You will be required to:

- plan logical steps and organize resources to accomplish a task within a given time frame (e.g., investigation). (15%)
- evaluate situations to determine conflict and resolution. (14%)
- assess consequences of personal actions to determine legal, economic, political, environmental, and social impact. (15%)
- analyze the roles of the executive, judicial, and legislative branches of the United States government to make informed choices as a productive, contributing citizen. (12%)
- interpret information about the United States economic system to make informed choices related to a person's standard of living. (18%)
- apply elementary principles underlying mechanical, electrical, thermal, or chemical systems to make inferences. (15%)
- determine the best economic value of several alternatives to make informed choices. (11%)

## Using Numbers and Data

The North Carolina High School Exit Exam — Using Numbers and Data Test assesses your ability to apply mathematical and data analysis skills and concepts to solve problems in a variety of contexts. The following five learning objectives are measured on this test (the approximate percentage of items measuring each learning objective is listed in parentheses):

You will be required to:

- apply real number operations and relationships (e.g., absolute value, radical expression, exponents) to solve problems related to home, work, and environment. (20%)
- apply formulas and expressions (e.g., area, perimeter, circumference, surface area, volume, Pythagorean Theorem, similar polygons, angle relationships) to solve problems related to home and work. (20%)
- make predictions by using algebraic concepts (e.g., tables, charts, algebraic equations, and coordinate graphs) to solve problems related to work, scientific investigations, and consumer issues. (20%)
- make predictions by using data analysis and probability (e.g., measures of central tendency, regression equations, theoretical probability) to solve problems related to home, scientific investigations, and work. (20%)
- use relationships among fractions, decimals, and percents to demonstrate understanding of mathematical and scientific concepts. (20%)

### III. How to Take the North Carolina High School Exit Exam

Unlike some other tests that you have probably taken, the North Carolina High School Exit Exam is not a test of English, science, social studies, or mathematics facts. Instead, this exam evaluates your ability to apply the information you have learned throughout your formal and informal education. The North Carolina High School Exit Exam is designed to assess how prepared you are to communicate, process information, problem solve, and interpret numbers and data after you graduate from high school. Whether you plan to enter the workforce or attend college or trade school after graduation, you will need some basic skills as a citizen and consumer. The lists below highlight some of the ways you can prepare for the North Carolina High School Exit Exam.

#### Formal Education

- Attend class regularly
- Participate in class discussions
- Complete homework assignments
- Study for exams
- Take a variety of courses

#### Informal Education

- Participate in extracurricular activities
- Interact with others
- Volunteer or work in the community and/or at home
- Be a consumer of goods and services

#### **Before the Tests**

The North Carolina High School Exit Exam assesses your understanding of major concepts you have learned over the past several years. To prepare for this test, review all the objectives measured by the test. Careful reading of this handbook will provide you with additional information about the tests. You can become familiar with the types of test questions by trying the sample questions in this handbook. Ask a teacher or school counselor questions about the parts you do not understand.

Along with becoming familiar with the objectives measured by the tests, you should come to the testing session prepared to take the test. To be alert and energetic at test time, you should:

- ✓ Get a good night's rest with plenty of sleep.
- ✓ Eat a typical, nutritious breakfast.
- ✓ Arrive on time so that you will be able to get organized before each test.
- ✓ Wear comfortable clothing.
- ✓ Bring any required materials (your teacher or school counselor will tell you which materials are necessary for you to bring, if any).

## During the Tests

The person giving the tests (test administrator) will try to make the testing situation comfortable and free from distraction. The following is a list of suggestions for you to use while taking the test:

- Follow directions:
  - ✓ Read the directions carefully.
  - ✓ If you do not understand the directions, raise your hand and ask questions.
  - ✓ When you mark each answer, make sure that the number on the answer sheet matches the number of the question that you are working on.
  - ✓ Mark your answer within the answer circle.
  - ✓ Erase all changed answers carefully. If the pre-printed circle disappears, do not redraw it. Redrawn circles may be scored as an answer.
- Be sure to use good test-taking strategies:
  - ✓ Read the scenario or passage and survey the information provided (charts, graphs, etc.). Then read the question.
  - ✓ Read the whole question carefully. Think about what the question asks before you choose your answer. Use the information provided to determine the best answer.
  - ✓ Do not spend too much time on one question. You may choose to answer the easier questions first, then come back to the difficult questions. Try to eliminate some of the choices. Choose the best answer.
  - ✓ Try to answer each question.
  - ✓ Avoid unnecessary clock watching. It may break your concentration and cause anxiety.
  - ✓ Keep working until you have finished the test.
  - ✓ Check your work if you finish before time is called.
  - ✓ Do the best you can.

## After You Complete Each Test

- ✓ Go back and recheck your answers.
- ✓ Make sure you have answered every question.
- ✓ Erase all stray marks on your answer sheet. Stray marks may cause answers to be scored incorrectly.

## IV. Sample Test Questions

The sample test questions that are on the following pages are provided so that you can become familiar with the learning objectives, types of questions, and level of difficulty of the North Carolina High School Exit Exam. Each test has its own set of learning objectives for your review. It is recommended that you answer the questions as though you were taking the test. After you finish each sample test, check your answers against the key provided in the back of each section. Check to see if there is a particular learning objective that was more difficult than others for you.

### Communication

The North Carolina High School Exit Exam — Communication Test assesses your ability to critically evaluate and analyze printed material, as well as to understand and accurately apply the rules of standard English. The following eight learning objectives are measured on this test (the approximate percentage of items measuring each learning objective is listed in parentheses).

You will be required to:

- apply rules of standard English to written text. (13%)
- use main ideas and supporting details to organize and communicate information. (12%)
- evaluate ideas and information to make informed decisions. (13%)
- listen carefully and thoughtfully to understand, evaluate, and synthesize information. (12%)
- evaluate information by recognizing the author’s purpose to draw conclusions or make informed decisions. (12%)
- evaluate information to detect bias or vested interest. (13%)
- follow instructions to draw conclusions or make informed decisions. (13%)
- detect fact, propaganda, and opinion to make informed decisions. (12%)

The North Carolina High School Exit Exam — Communication Test is divided into three parts: listening, embedded error, and scenarios.

### **Listening**

The first part of the Communication Test of the North Carolina High School Exit Exam is designed to measure your listening skills. The directions your teacher will read to you follow.

“After I finish reading the directions to you, I will read a passage of text. You will need to listen carefully to what I say in order to answer the questions. You may use the blank paper provided to take notes if you would like to, but you are not required to take notes. You will not be allowed to look at the questions before or during the reading of the passage. Are there any questions?”

“We are ready to begin the Listening Test of the North Carolina High School Exit Exam.”

### **Embedded Error**

The second part of the Communication Test of the North Carolina High School Exit Exam is designed to test your knowledge of English language, grammar, punctuation, spelling, and usage rules. A passage will be provided in your test booklet that will contain errors. Each sentence or fragment in the passage will be numbered sequentially. Most of the questions that follow the passage will refer to these numbers.

### **Scenarios**

The third part of the Communication Test of the North Carolina High School Exit Exam is designed to test your knowledge of various other Communication learning objectives. You will be provided with scenarios and multiple prompts that relate to a theme or situation. You will be asked to answer questions based on the information provided for each scenario.

The following questions are examples of types of items you will see on the Communication Test of the North Carolina High School Exit Exam. The items appear in the same order as those on the actual test. While this sample has only 28 questions, the actual test will consist of approximately 60–80 questions.

The following passage will **not** appear in the test booklet when you take the North Carolina High School Exit Exam. The passage will be read to you by your test administrator, and you will then be asked questions about what was read. In order to simulate the experience of the North Carolina High School Exit Exam, you may tear this page out of the handbook and have someone read the following passage to you. When taking the test, you will be able to use a blank piece of paper to take notes on what you hear.

### **“Graduation Speech”**

You will be listening to me reading a graduation speech. You may take notes on what you hear. You will then answer the questions about what you have heard.

When I stepped into the Robertson High School gym for freshmen orientation, I could not have anticipated how quickly the next four years would pass, nor could I imagine how many poignant memories I would form.

I have learned so much during my years at Robertson. Yet, my knowledge is not limited to the classroom. Though I have studied long hours and dedicated myself to academic achievement, I have also tried to learn about life’s relationships, challenges, and opportunities. By opening myself to friendships and advice, by learning from the examples of my peers and teachers, I believe that I have grown in my understanding of myself.

I hope that you, my fellow classmates, are able to see the ways in which you too have grown, and to see how the connections, discoveries, and memories you’ve made here have transformed you and helped you to understand more about who you are.

My parents often told me that it is wonderful to achieve academic honors, such as I have today by being named your class valedictorian, but they often reminded me that I should have fun and appreciate this time in my life. Following their advice was the best thing I did. I can truly say today how grateful I am for the memories I hold: the fun dances, the baseball and soccer games, the field trips, the cramming for Mr. Jackson’s tough English tests, the yearbook meetings, and all the times I just hung out with friends after school. Thanks fellow classmates for the memories and more. May all your futures be bright!

You may use your notes from the passage to answer the questions on the following page.

This page was intentionally left blank. You may tear this page out of the handbook and have someone read the passage on page 13 to you. When taking the test, you will be able to use a blank piece of paper to take notes on what you hear.

1. Who is giving this graduation speech?
  - A the class president
  - B the class valedictorian
  - C the class salutatorian
  - D the class representative
  
2. Given the content of the speech, which of the following would be the **best** tone for the speaker to use?
  - A regretful
  - B reminiscent
  - C humorous
  - D worrisome
  
3. Which word **best** describes the final remarks in the speech?
  - A cynical
  - B somber
  - C playful
  - D congratulatory
  
4. Which description of the speaker is probably **most accurate**?
  - A The speaker was involved in many school activities.
  - B The speaker worked many hours at a part-time job.
  - C The speaker struggled with academic achievement.
  - D The speaker spent little or no time socializing.
  
5. What is the **most likely** reaction the parents would have to this speech?
  - A surprised, because the speaker mentioned so many remembrances
  - B confused, because the speaker mentioned experiences they did not have
  - C pleased, because the speaker chose a positive theme
  - D disappointed, because the speaker was careless in his or her remarks

**CONTINUE**

## “Letter to Graphics Design Department”

This is a letter Jenna Scott wrote to a local community college. Jenna Scott is a junior at Madison High School, and she is very interested in graphic design. She wants to find out about training programs where she can increase her skills. The following passage contains errors. Answer the questions that follow.

Ms. Lara Hughes, Admissions Office  
Aldrin Community College  
1800 Commons Boulevard  
Raleigh, North Carolina 27601

January 8

Dear Ms. Hughes:

(1) I know that your schools graphic design department has an excellent reputation. (2) I am very interested in the field of desktop publishing, and I would like to learn more about your course offerings. (3) I am interested in getting information about your college’s internship opportunities, work/study programs, and financial aid packages.

(4) During the last two years of high school, I have taken many art classes and computer classes. (5) My parttime job at the Ready Print Shop has given me a chance to see how many of the workers are able to combine their interests in art with computer technology.

(6) After I graduate, I would like to pursue my career goals at your school. (7) Already, I have learned some practical graphic design and computer skills in high school. (8) I know keyboarding techniques as well as the basics about creating documents, retrieving information, editing materials, etc. (9) With my art background, I can readily understand layout and design principles.

(10) My goal is to complete your short-term certificate program and start work as a graphics designer as soon as I get my certificate. (11) I would also like to apply for work/study programs. (12) Or internships through your office. (13) A work/study situation would be ideally because I could get job experience and go to school at the same time.

(14) Last week, I talked to Mr. Romero, our school’s college counselor, about my goals. (15) He said, “You should ask Ms. Hughes about the school’s programs and financial aid because the college has many opportunities available.” (16) So, I am following Mr. Romero’s advise and asking you to send me important information and/or application forms as soon as possible. (17) Thank you very much for your help; I look forward to recieving the materials.

Sincerely,

Jenna Scott

**CONTINUE**

6. Which correction should be made to sentence 1?
- A Change your to yours.
  - B Change schools to school's.
  - C Change has to have.
  - D Change excellent to excellence.
7. Which correction should be made to sentence 5?
- A Change parttime to part-time.
  - B Change Ready Print Shop to ready print shop.
  - C Change given to gave.
  - D Change combine to combines.
8. Which of the following is a fragment?
- A During the last two years of high school, I have taken many art classes and computer classes.
  - B With my art background, I can readily understand layout and design principles.
  - C Or internships through your office.
  - D Last week, I talked to Mr. Romero, our school's college counselor, about my goals.
9. Which correction should be made to sentence 13?
- A Change ideally to ideal.
  - B Insert a semi-colon after experience.
  - C Change go to going.
  - D Insert a comma after school.
10. Which correction should be made to sentence 16?
- A Change Romero's to Romeros'.
  - B Change advise to advice.
  - C Change asking to asked.
  - D Change forms to form's.
11. Which correction should be made to sentence 17?
- A Insert a comma after much.
  - B Change your to you're.
  - C Insert a comma after forward.
  - D Change recieving to receiving.

**CONTINUE**

## “Leasing an Apartment”

Carmen has accepted a job in Atlanta, Georgia, and must now find and rent an apartment. Carmen decides to write to the Fair Rentals organization to get a “first-time renters” brochure. Read the following information from the brochure that Carmen received from the company.

### Fair Rentals

#### *What you need to know about signing a lease*

A lease is a legal contract between two or more people regarding the use of property. The lease contains the terms of the agreement and serves as a record of the agreement in case disputes arise. There are some steps you can take to make sure your rights as a tenant are protected.

#### Be Informed BEFORE You Sign a Lease

- Get any verbal promises from the landlord in writing. For example, if the landlord promises a free washer and dryer, get it in writing before you sign the lease.
- Find out who is responsible if something breaks in your apartment. Most landlords or management companies cover repairs that are not the fault of the renter, such as a broken air conditioner or leaky dishwasher. They won't, however, cover repairs that are the result of your negligence, such as a stained carpet.
- Make certain that all of the landlord's rules are specified in your rental agreement.
- Pay careful attention to how your lease treats the issue of lawsuits. Does the lease contain a clause that you are not entitled to a jury trial? Does it name who pays for your landlord's attorney fees if you pursue a lawsuit?

#### Know Your Rights AFTER You Sign a Lease

- Keep a copy of your signed lease and a copy of your apartment community's rules in a secure place. The lease is your guide if there are any problems you need to resolve with your landlord.
- When you move in, take an inventory of the apartment and note its condition, and keep a copy for your records. Some rental agents will provide an inventory form for you to sign. This detailed inventory will help you to get your security deposit back if there are any repair issues that need to be settled.
- Be sure to pay your rent on time. Even if you have a dispute with your landlord, do not fail to pay the rent. Withholding the rent may be cause for eviction.

**CONTINUE**

Carmen is very interested in the clean, well-maintained Green Acres Rental Community, managed by Baldwin Properties. She obtained a copy of the lease and carefully studied it before deciding to sign it. Refer to the brochure Carmen received and the lease shown below to answer the questions that follow.

This AGREEMENT is entered into on \_\_\_\_\_, between Baldwin Properties, hereinafter called LESSOR and \_\_\_\_\_, hereinafter called LESSEE.

1. PREMISES. LESSEE hereby rents from LESSOR Unit\_\_\_\_, 1000 Applemore Avenue located in Atlanta, GA.
2. TERM. This lease commences on the \_\_\_\_\_ day of \_\_\_\_\_. Lease ends on \_\_\_\_\_.
3. RENT. Rent is \$800.00 per month, or \$9,600 for the duration of the lease. Rent is to be paid in advance by the first day of each month by a person who is party to this lease. Check or money orders payable to BALDWIN PROPERTIES should be mailed or delivered to 1325 N.E. Applemore Avenue #25, Atlanta, GA 30506. Cash is not accepted for rent. Rent not paid by the fifth day of each month is late, and a penalty of TEN DOLLARS (\$10.00) is incurred for EACH DAY after the rent is late. A charge of TWENTY DOLLARS (\$20.00) will be billed each time a check is returned by the bank for insufficient funds.
4. DEPOSITS. LESSEE will pay and maintain a damage, cleaning, and security deposit to BALDWIN PROPERTIES, which LESSOR will deposit at Federal Savings Bank.
  1. The deposit will compensate LESSOR for unpaid rent, cleaning charges, and fees owed by the LESSEE upon termination of the lease.
  2. The portion of the deposit that is refundable will be mailed to the LESSEE within TEN (10) days of the end of the lease.
  3. LESSOR will provide a list of charges claimed from the deposit.
5. PETS. LESSEE shall not keep animals or pets of any kind in the rental unit.
6. UTILITIES. LESSOR shall furnish water, garbage disposal, and hot water. LESSEE will pay for all other utilities, including installation charges for cable television and telephone.
7. WATERBEDS. LESSOR needs to give formal written consent for waterbeds.
8. REPAIRS. LESSEE is responsible for all damage as a result of negligence on the part of the LESSEE. LESSOR is responsible for all routine maintenance.
9. REGULATIONS. LESSOR may adopt regulations concerning use of the common areas which the LESSEE agrees to as a condition of this lease.
10. PAYMENTS. The following payments are due on the dates specified. If payments are not made on time, LESSOR may retain all payments and dissolve the lease.
 

1. Security Deposit	\$800.00 DUE _____
2. First Month's Rent	\$800.00 DUE _____
11. RENEWAL. If LESSEE wants to extend or renew this lease, the security deposit is applied to the new lease. Return of the deposit minus itemized charges will occur at the end of the renewal or extended lease.

\_\_\_\_\_

Signature of Lessee/Date

\_\_\_\_\_

Signature of Lessor/Date

**CONTINUE**

12. If Carmen follows the strategies described in the Fair Rentals brochure, which actions will she be *most likely* to take?
- A Get a verbal contract from the management company, establish a good relationship with them, and pay the rent on time.
  - B Know the clauses listed in the lease, maintain the apartment, and refuse to pay the rent if there is a dispute.
  - C Take a careful inventory of the apartment's condition and assume responsibility for repairs of appliances and miscellaneous items.
  - D Thoroughly read the lease, check that all important matters are listed, and file all documents in a safe place.
13. Carmen sees an ad about the Green Acres Rental Community that promises a 5% rebate to renters who pay the first three months' rent in advance. In order to protect herself financially, what should she do before signing the lease and paying the first three months' rent in advance?
- A Make sure the rebate is specified in the lease.
  - B Talk to the rental agent about when repairs are done.
  - C Investigate if there are any lawsuits against Green Acres.
  - D Find out how tenants feel about the landlord's rebate.

**CONTINUE**

14. Fair Rentals provides leasing information to potential renters. Which of the following is the **most likely** reason that Carmen requests this information?
- A She is looking for reasonable rent prices for leasing an apartment.
  - B She wants to make sure that she is informed about potential legal problems and solutions in regards to leasing.
  - C She is trying to figure out where the best landlords are located in Atlanta.
  - D She wants to initiate a lawsuit with her current landlord.
15. On her moving day, Carmen accidentally cracks one of the floor tiles and discovers that the garbage disposal does not work. According to the lease, how will Baldwin Properties **most likely** respond?
- A They will pay for both of the repairs.
  - B They will only pay for the disposal's repair.
  - C They will charge Carmen for both repairs.
  - D They will only pay for the cost of replacing the tile.
16. After signing the lease, Carmen is at a local furniture store and sees a one-day sale on very affordable, high-quality waterbeds. Based on the information in the lease, which **best** describes the action Carmen should take about the purchase?
- A She should buy the waterbed and then ask the landlord for permission to install it.
  - B She should buy the waterbed and install it without informing Baldwin Properties.
  - C She should not buy the waterbed without Baldwin Properties' written permission to install it.
  - D She should not buy the waterbed unless the rental agency gives consent by telephone to install it.
17. Leases are often prepared by, and therefore benefit, the lessor. Which of the clauses in Carmen's lease benefits the lessor?
- A (1) PREMISES
  - B (2) TERM
  - C (4) DEPOSITS
  - D (11) RENEWAL

**CONTINUE**

18. Last month 10 of the 35 tenants at Baldwin Properties were late sending their rent checks. What could Baldwin Properties do to discourage late rent checks in the future?
- A Increase the amount of the security deposit.
  - B Create incentives for long-term leases.
  - C Lengthen the grace period for rent payments.
  - D Raise the amount of the penalty for late rent.
19. Carmen needs to be sure that she will get her security deposit back when she moves out. Which would be the *best* action for her to take to ensure the return of this deposit?
- A Plan to have her apartment professionally cleaned before moving out.
  - B Document existing damage to the apartment before moving in.
  - C Obtain renters' insurance with maximum coverage.
  - D Send her rental check directly to Federal Savings Bank to avoid late fees.

**CONTINUE**

## “Newspaper Antitrust Lawsuit”

Benjamin’s high school journalism class is studying the San Francisco Newspaper antitrust lawsuit. Background vocabulary terms needed to understand the lawsuit include *antitrust* and *joint operating agreement*.

***Antitrust Situations:*** These are unlawful restraints and monopolies or unfair business practices by one business against other businesses. There are federal and state laws to protect trade and commerce from illegal business operations.

A business arrangement between two or more newspaper publishers is a *joint operating agreement*. The publishers share business functions and split profits but compete in newsgathering by maintaining two separate and independent newsrooms, each with its own staff of editors, reporters, photographers, and other professionals.

To better understand the lawsuit, Benjamin’s class reads a newspaper article about the lawsuit. Use the information on this page to answer the questions that follow.

This article has been removed from this online version due to copyright restrictions.

**CONTINUE**

20. The San Francisco *Chronicle* and *Examiner* have a combined website called SF-Gate. Which of the following statements by a representative of the two newspapers is propaganda in favor of allowing the buyout to proceed?
- A “Our Internet site is a sign of decreasing collaboration between the two papers.”
  - B “We expect profits from our Internet site to be volatile during this start-up period.”
  - C “Our place in the crowded Internet marketplace proves competition is alive and well.”
  - D “SF-Gate gets our reporting out to readers across the country who don’t read newspapers otherwise.”
21. A television reporter asked people on a San Francisco street what they thought about the proposed buyout of the *Chronicle* by the *Examiner*. Which of the following responses shows the speaker’s bias about the deal?
- A “The Hearst Corporation would probably do very well if the deal goes through.”
  - B “Buyout? I haven’t heard anything about it. I don’t follow the news that much.”
  - C “We’ll have to wait and see how this whole antitrust thing comes out in the courts.”
  - D “My dad worked for the *Chronicle* for 42 years. It would be a crime to sell it.”

**CONTINUE**

22. Benjamin and his class are holding a “mock” meeting to present the pros and cons of the proposed newspaper merger to a judge. Below is a chart they prepared for the meeting.

<u>PROS</u>	<u>CONS</u>
* parent company revenue will increase significantly	* consumers have only one choice for print news
* formation of cohesive news networks	* advertising rates will increase
	* subscription rates may rise

Using the article and chart, which outcome would prevent the deal from taking place?

- A Freedom of speech will be in danger due to the limited perspective of a single newspaper.
- B Merger of dual papers will result in a monopoly.
- C Product sales prices will increase as a result of higher ad costs.
- D Consumers will absorb merger costs in higher subscription rates.

**CONTINUE**

A small city in Ohio is facing a similar merger of its two papers. The following letters to the editor were submitted and printed. Use these letters to answer the questions that follow.

---

September 13

Dear Editor:

The proposed merger of the Dillingham *Messenger* and its competitor, the *Ledger*, makes good business sense. I think the lawsuit charging antitrust violations because of the merger is nonsense. There are no violations, and there will be no monopoly.

The joint operating agreement that the *Ledger* and *Messenger* have used since 1972 hasn't worked. How can these two companies share business expenses and profits when the *Messenger* has, in effect, subsidized the *Ledger* for almost 30 years? The idea that fewer reporters and editors means the community gets diminished coverage is also without merit. One newspaper can cover the news admirably.

Consumers win in this proposed merger. We get a newspaper that can effectively compete with neighboring newspapers for advertising and subscription dollars. Our marketing department expects up to a 15 percent drop in advertising rates if the merger succeeds. We can allocate more funds to advertising, and we can keep these dollars at home instead of spending them at a paper with no direct ties to our community. Also, as the only paper in Dillingham, the *Messenger* won't have to use its resources competing with outside papers *and* with a paper in the same town. Therefore, it can continue to keep subscription and advertising rates at a reasonable level.

The merged papers may make more money than either paper did on its own. But what's wrong with making a profit? That's what the American free enterprise system is all about. Newspapers must live by profit-grounded business rules to survive in today's economy, just like any other business.

Sincerely,  
Elizabeth Stanford, Chief Executive Officer  
Capteck, Inc.

**CONTINUE**

September 13

Dear Editor:

The Dillingham *Messenger* and its competitor, the *Ledger*, should remain competitors. Eliminating the *Ledger* effectively creates a monopoly for the *Messenger*. That's nothing but bad news for the community, and I applaud the antitrust suit aimed at halting the proposed merger between the two.

Consumers lose if this merger is allowed. We will have one fewer metropolitan newspaper to choose from, and we'll be dependent on the *Messenger's* commitment to fair news practices. Without competition, they have a greater obligation to practice objectivity and thorough reporting. They also have a greater opportunity to abuse their power and to bow to special interests in Dillingham. We'll also pay more for our newspaper and for advertising. Figures that I've seen show that there could be an 18 percent to 20 percent increase in advertising rates after a merger. Compare this to an expected 12 percent to 16 percent drop in those rates if the papers continue to compete for the same advertising dollars. The winners will be the newspapers outside our community who move in and take a competitive stance against our lone newspaper. Then consumers are forced to either pay higher advertising rates for their hometown paper or take lower rates from a non-local competing paper that provides virtually no news coverage for our city.

The joint operating agreement that the *Ledger* and *Messenger* have used since 1972 may not be the perfect arrangement, but it has given Dillingham a choice for almost 30 years. It gives us two independent professional news staffs and competitive prices. We must keep the right to have that choice.

Sincerely,  
Barry Frampton, Teacher  
Dillingham High School

**CONTINUE**

23. In her letter to the editor, Ms. Stanford states that her marketing department expects a 15 percent drop in advertising costs. In Mr. Frampton's letter, he states that advertising costs will increase by 18 to 20 percent. What does this contradiction of facts/figures *most likely* do for readers who have not made up their minds?
- A creates intense concerns over both papers' integrity
  - B prompts them to cancel their current subscriptions
  - C prompts them to look at other factors
  - D causes them to call for an end to the merger
24. According to her letter to the editor, which of the following questions is Elizabeth Stanford's principal criterion for evaluating a newspaper merger?
- A Does it keep the employees happy?
  - B Does it result in good reporting?
  - C Does it create a monopoly?
  - D Does it make good business sense?
25. Which comments in Elizabeth Stanford's letter reveal whether or not Capteck, Inc., has an economic interest in the proposed merger?
- A comments about the joint operating agreement
  - B comments about marketing department expectations
  - C comments about competition with out-of-town newspapers
  - D comments about the American free enterprise system
26. Why does Barry Frampton use the word "lone" toward the end of the second paragraph of his letter to the editor?
- A to set a tone of pity toward the newspaper he says will be a weak competitor
  - B to convey an image of independence and pride in the competitive free market
  - C to sound more formal than "one" or "only" because he is writing for publication
  - D to appeal to a variety of readers

**CONTINUE**

27. If the predictions stated in Barry Frampton's letter to the editor are correct and generally accepted, which of the following is **most likely** to have a vested interest in getting the merger approved?
- A newspaper delivery personnel
  - B a company that advertises in the paper
  - C a newspaper in a nearby community
  - D Dillingham High School

28. Two high schools, Glenview Central and Midtown Public, decided to produce one newspaper to cut down on printing costs. Which of the following steps would **best** provide balanced reporting for each school?
- A making the new name of the paper *The Glenview/Midtown Gazette*
  - B adding a teacher adviser from one of the schools
  - C providing each school the same amount of column inches in every paper published
  - D having a mediation team to resolve bias disputes between the schools



## Communication Answers and Learning Objectives

1. The correct answer is B. This question requires you to listen carefully and thoughtfully to understand, evaluate, and synthesize information.
2. The correct answer is B. This question requires you to listen carefully and thoughtfully to understand, evaluate, and synthesize information.
3. The correct answer is D. This question requires you to listen carefully and thoughtfully to understand, evaluate, and synthesize information.
4. The correct answer is A. This question requires you to listen carefully and thoughtfully to understand, evaluate, and synthesize information.
5. The correct answer is C. This question requires you to listen carefully and thoughtfully to understand, evaluate, and synthesize information.
6. The correct answer is B. This question requires you to apply rules of standard English to written text.
7. The correct answer is A. This question requires you to apply rules of standard English to written text.
8. The correct answer is C. This question requires you to apply rules of standard English to written text.
9. The correct answer is A. This question requires you to apply rules of standard English to written text.
10. The correct answer is B. This question requires you to apply rules of standard English to written text.
11. The correct answer is D. This question requires you to apply rules of standard English to written text.
12. The correct answer is D. This question requires you to follow instructions to draw conclusions or make informed decisions.
13. The correct answer is A. This question requires you to evaluate ideas and information to make informed decisions.
14. The correct answer is B. This question requires you to evaluate information by recognizing the author's purpose to draw conclusions or make informed decisions.
15. The correct answer is B. This question requires you to use main ideas and supporting details to organize and communicate information.
16. The correct answer is C. This question requires you to follow instructions to draw conclusions or make informed decisions.
17. The correct answer is C. This question requires you to evaluate information to detect bias or vested interest.
18. The correct answer is D. This question requires you to evaluate ideas and information to make informed decisions.

19. The correct answer is B. This question requires you to evaluate ideas and information to make informed decisions.
20. The correct answer is C. This question requires you to detect fact, propaganda, and opinion to make informed decisions.
21. The correct answer is D. This question requires you to evaluate information to detect bias or vested interest.
22. The correct answer is B. This question requires you to evaluate ideas and information to make informed decisions.
23. The correct answer is C. This question requires you to detect fact, propaganda, and opinion to make informed decisions.
24. The correct answer is D. This question requires you to use main ideas and supporting details to organize and communicate information.
25. The correct answer is B. This question requires you to evaluate information to detect bias or vested interest.
26. The correct answer is A. This question requires you to evaluate information by recognizing the author's purpose to draw conclusions or make informed decisions.
27. The correct answer is C. This question requires you to evaluate information to detect bias or vested interest.
28. The correct answer is C. This question requires you to evaluate information to detect bias or vested interest.

## Processing Information

The North Carolina High School Exit Exam — Processing Information Test requires you to process multiple types of data and to interpret, analyze, synthesize, and make appropriate inferences, predictions, or plans. The following six learning objectives are measured on this test (the approximate percentage of items measuring each learning objective is listed in parentheses):

You will be required to:


- analyze information by comparing, contrasting, and summarizing to make informed decisions. (16%)
- use patterns, relationships (e.g., cause and effect relationship), and trends to draw inferences and make predictions concerning environmental and social outcomes. (18%)
- synthesize information from several sources to apply that information to a new situation. (17%)
- organize tasks to accomplish an objective (e.g., scientific investigations). (11%)
- evaluate information, explanations, or ideas by identifying and applying criteria to draw conclusions or make predictions. (19%)
- interpret multiple sets of data to determine the best course of action. (19%)

The following questions are examples of types of items you will see on the North Carolina High School Exit Exam — Processing Information Test. While this sample has only 20 questions, the actual test will consist of approximately 60–80 questions.

## “Bus Passes”


A one-way bus ride in River City costs \$1.25. In February, River City will begin a bus pass program. Below are the different passes that will be offered by the bus company and a calendar for the month of February. Use this information to answer the questions that follow.

**Deluxe Monthly Pass**  
**\$62**  
 Valid: Feb. 1 – Feb. 29




**Bus Transit**

**Monthly Pass**  
**\$42**  
 Valid: Monday – Friday  
 Feb. 1 – Feb. 29



**Bus Transit**

**Weekly Pass**  
**\$17**  
 Valid: Feb. 2 – Feb. 8




**Bus Transit**

**Weekday Pass**  
**\$12**  
 Valid for 10 rides Mon. – Fri.



**Bus Transit**

**\* Student Pass**  
**\$40**  
 Valid: 7:00 a.m. – 4:00 p.m.  
 Mon. – Fri.  
 Expires: Feb. 29



**Bus Transit**

\* Cardholder must possess valid student ID.

**\* Senior Citizen Pass**  
**\$48**  
 Valid: Feb. 1 – Feb. 29



**Bus Transit**

\* Cardholder must be over 60 years of age.

February						
Sun.	Mon.	Tues.	Wed.	Thu.	Fri.	Sat.
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

**CONTINUE**

1. Randy is 35 years old. If he only rides the bus to and from work, Monday through Friday, how can he get the *best* value for his money in February?
- A Pay \$1.25 for each bus ride.
  - B Buy a deluxe monthly pass.
  - C Buy a monthly pass.
  - D Buy weekday passes.
2. Terrance will be in River City on business February 10 through 14. He will be traveling on the bus while he is there. What is the first step Terrance should take in determining if he should buy a bus pass?
- A Find out the number of the bus he will be riding on.
  - B Estimate the mileage of each bus trip he will take.
  - C Find out the locations of the bus stops he will be using.
  - D Estimate how many times he will ride the bus.
3. How much will a weekday pass save the cardholder on each bus ride?
- A \$0.05
  - B \$0.50
  - C \$0.75
  - D \$1.00
4. Which of the following people in River City should choose to pay the regular bus fare rather than buy a bus pass?
- A a principal who travels to and from work on school days
  - B a bakery employee who travels to and from work each Saturday and again each Sunday
  - C a journalist who travels by bus six days a week to capture news stories
  - D a store clerk who travels Sunday through Thursday to and from work

**CONTINUE**

Toni has volunteered to pick up bus passes for the members of her family. She has made a chart showing how often each person rides the bus on average. No member of Toni's family is over 60 years of age.

Family Member	Average Rides
Mom	24 times a month
Dad	10 times a week, M–F, twice on Saturday
Toni	to and from school, M–F, twice on Saturday
Claire	to and from school, M–F, twice Friday night and twice on Saturday

5. Who would benefit *most* from a deluxe monthly pass?

- A Mom
- B Dad
- C Toni
- D Claire

6. If she buys a student pass, how much will Toni be paying for each bus ride to and from school?

- A \$0.80
- B \$0.90
- C \$1.00
- D \$1.25

**CONTINUE**

## “Philip’s Camera”

Philip has been saving money to purchase a camera. He has budgeted about \$200 to spend on a camera. Philip visits a local camera store to gather information. Answer the questions that follow.

7. What would be the **most logical** first step for Philip in selecting a camera?

- A choosing accessories
- B buying film
- C gathering information
- D comparing film developing costs

8. Where could Philip go to get unbiased information on cameras?

- A a website for a camera manufacturer
- B a national consumer group publication
- C advertisements in camera magazines
- D promotional literature from a photography convention

9. Philip is typing a list of good and bad points about the Photomaker Professional camera.

<i>Name/Cost</i>	<i>Features</i>
Photomaker Professional camera \$150.00	<ul style="list-style-type: none"> <li>• Automatic or manual shutter speed</li> <li>• Uses any film up to 1000 speed</li> <li>• Flash unit not included</li> <li>• Comes with medium distance lens</li> <li>• Other lenses can be purchased separately</li> </ul>

Which of the following drawbacks belongs on his list?

- A The quality of pictures would be inferior to pictures from other cameras.
- B He would have to buy several accessories for it.
- C The Photomaker Professional camera is less durable than the other cameras.
- D He could only use one type of film in that camera.

**CONTINUE**

10. The Photomaker Professional is a new camera model. What question should Philip ask to determine whether the company that makes the Photomaker Professional camera will stand behind its products?
- A Where are the cameras sold?
  - B How are the cameras advertised?
  - C Is there a rebate on the camera?
  - D How long is the warranty period?

11. Philip gathered information on the film used in the cameras. He wants to take photographs indoors and outdoors. Here is a chart the photography store supplied.

Film Speed	Light Needed		Image Quality
	Outdoors	Indoors	
100	natural	flash	clear
200	natural	flash	clear
300	natural	natural	slightly grainy
400	natural	natural	grainy

If Philip wants clear pictures and has the Photomaker Professional camera, what else will he need?

- A special batteries
- B 800 speed film
- C extra lenses
- D a flash unit

**CONTINUE**

## “Consumer Choice: Dry Cleaner”

As a part-time restaurant server, Rose needs to have her uniform cleaned frequently because of stains left by spilled food and drinks. She can choose from several dry cleaners in her community. To help her make her decision, Rose rated each of the local dry cleaners on a scale of #1 (best) to #5 (worst) according to a list of criteria. She organized this information in the chart shown below. Look at the chart and answer the questions that follow.

	Price	Quality of cleaning	Speed	Location	Friendly service	Average score
<b>Robinson’s Dry Clean</b>	3	1	4	5	1	2.8
<b>A-1 Cleaners</b>	1	4	5	2	2	2.8
<b>Ready Dry Cleaning</b>	2	5	2	3	3	3.0
<b>Quick ‘n’ Clean</b>	5	2	1	4	4	3.2
<b>Downtown Cleaners</b>	4	3	3	1	5	3.2

12. Why might Rose choose A-1 Cleaners over Robinson’s Dry Clean?

- A It costs less to use A-1 Cleaners.
- B A-1 Cleaners has the best overall rating.
- C Speed is Rose’s most important criterion.
- D Rose is mostly concerned with quality of cleaning.

13. What priority would cause Rose to give her business to Quick ‘n’ Clean?

- A price
- B speed
- C average score
- D friendly service

**CONTINUE**

14. What would cause Rose's ranking of A-1 Cleaners to be higher?
- A if they were more conveniently located than Ready Dry Cleaning
  - B if they had friendlier service than Quick 'n' Clean
  - C if they had lower prices overall
  - D if they had speedier service
15. Why would Rose *most likely* reconsider her ranking for Robinson's Dry Clean?
- A if it advertised more
  - B if it retrained its employees
  - C if it provided different pricing plans
  - D if it offered free pick-up and delivery
16. Rose decides to give her dry cleaning business to Downtown Cleaners. Which of the following *best* explains her choice?
- A They do the best job of removing food stains from her uniform.
  - B Their employees are the most reliable and considerate.
  - C She values location more than all other criteria combined.
  - D She is mostly concerned about staying within her budget.
17. Rose's friend, David, looks at the chart. What inference can David make using the information in the chart?
- A Rose picks up her dry cleaning once a week.
  - B A downtown location is the most convenient for Rose.
  - C Restaurant workers provide dry cleaners with most of their business.
  - D Robinson's Dry Clean is the most successful dry-cleaning business in the area.

**CONTINUE**

18. If all consumers think as Rose does, based on the information in the chart, which of the following statements is the **most reasonable**?
- A Quick 'n' Clean is successful because of the low prices.
  - B Quick 'n' Clean can charge more because people enjoy the friendly service.
  - C Downtown Cleaners is successful because of the convenient location.
  - D Downtown Cleaners can charge more because of the friendly service.
19. Rose helps her friend David create his own chart to help him decide which dry cleaner to choose. Although David's chart includes the same five dry cleaners, he ranks them differently. Which of the following **best** explains this difference?
- A David did not do the same research that Rose did.
  - B David did not understand the system that Rose used.
  - C David has different criteria for good dry cleaning.
  - D The quality of dry cleaners varies widely over short periods of time.
20. In economic systems, each person can be both a producer and a consumer. Rose is a consumer when she pays a business to do her dry cleaning. How is Rose also a producer?
- A She provides a service in the restaurant.
  - B She gathers information before making economic choices.
  - C She values quality of service as well as fair pricing.
  - D She shares her information about dry cleaners with her friends.



## Processing Information Answers and Learning Objectives

1. The correct answer is C. This question requires you to interpret multiple sets of data to determine the best course of action.
2. The correct answer is D. This question requires you to organize tasks to accomplish an objective (e.g., scientific investigations).
3. The correct answer is A. This question requires you to evaluate information, explanations, or ideas by identifying and applying criteria to draw conclusions or make predictions.
4. The correct answer is B. This question requires you to analyze information by comparing, contrasting, and summarizing to make informed decisions.
5. The correct answer is D. This question requires you to interpret multiple sets of data to determine the best course of action.
6. The correct answer is C. This question requires you to evaluate information, explanations, or ideas by identifying and applying criteria to draw conclusions or make predictions.
7. The correct answer is C. This question requires you to organize tasks to accomplish an objective (e.g., scientific investigations).
8. The correct answer is B. This question requires you to evaluate information, explanations, or ideas by identifying and applying criteria to draw conclusions or make predictions.
9. The correct answer is B. This question requires you to analyze information by comparing, contrasting, and summarizing to make informed decisions.
10. The correct answer is D. This question requires you to evaluate information, explanations, or ideas by identifying and applying criteria to draw conclusions or make predictions.
11. The correct answer is D. This question requires you to interpret multiple sets of data to determine the best course of action.
12. The correct answer is A. This question requires you to analyze information by comparing, contrasting, and summarizing to make informed decisions.

13. The correct answer is B. This question requires you to analyze information by comparing, contrasting, and summarizing to make informed decisions.
14. The correct answer is D. This question requires you to evaluate information, explanations, or ideas by identifying and applying criteria to draw conclusions or make predictions.
15. The correct answer is D. This question requires you to interpret multiple sets of data to determine the best course of action.
16. The correct answer is C. This question requires you to use patterns, relationships (e.g., cause and effect relationship), and trends to draw inferences and make predictions concerning environmental and social outcomes.
17. The correct answer is B. This question requires you to use patterns, relationships (e.g., cause and effect relationship), and trends to draw inferences and make predictions concerning environmental and social outcomes.
18. The correct answer is C. This question requires you to use patterns, relationships (e.g., cause and effect relationship), and trends to draw inferences and make predictions concerning environmental and social outcomes.
19. The correct answer is C. This question requires you to evaluate information, explanations, or ideas by identifying and applying criteria to draw conclusions or make predictions.
20. The correct answer is A. This question requires you to use patterns, relationships (e.g., cause and effect relationship), and trends to draw inferences and make predictions concerning environmental and social outcomes.

## Problem Solving

The North Carolina High School Exit Exam — Problem Solving Test requires you to analyze and evaluate problems in a variety of scenarios and to identify potential solutions or choices. The following seven learning objectives are measured on this test (the approximate percentage of items measuring each learning objective is listed in parentheses):

You will be required to:

- plan logical steps and organize resources to accomplish a task within a given time frame (e.g., investigation). (15%)
- evaluate situations to determine conflict and resolution. (14%)
- assess consequences of personal actions to determine legal, economic, political, environmental, and social impact. (15%)
- analyze the roles of the executive, judicial, and legislative branches of the United States government to make informed choices as a productive, contributing citizen. (12%)
- interpret information about the United States economic system to make informed choices related to a person's standard of living. (18%)
- apply elementary principles underlying mechanical, electrical, thermal, or chemical systems to make inferences. (15%)
- determine the best economic value of several alternatives to make informed choices. (11%)

The following questions are examples of types of items you will see on the North Carolina High School Exit Exam — Problem Solving Test. While this sample has only 20 questions, the actual test will consist of approximately 60–80 questions.

## “Planning a Garden”

Lisa has decided to plant a garden this spring. She has never had a garden before. She needs to look at several different factors in order to plan her garden. Answer the following questions.

1. It is May 15 now, and Lisa wants to have her garden planted by the last week of May. What is the *first* step she should take in order to plant the garden in time?
  - A buy the vegetable seeds she wants to plant
  - B decide on the types of vegetables she wants to grow
  - C map where each vegetable is going to be planted
  - D till the soil where the vegetables will be planted
2. The cost of water is very high in the town where Lisa lives, and she hopes she will not have to water her garden a lot. Which of the following, if present in large percentages in her garden soil, would force Lisa to water the garden frequently?
  - A sand
  - B nitrates
  - C clay
  - D iron

**CONTINUE**

3. Which of the following could lead to significant erosion of Lisa's garden soil?
- A a lengthy cold spell
  - B the garden being too level
  - C a pattern of wet then dry weather
  - D the yard being sloped significantly in one direction
4. Lisa plans to spread a layer of mulch over the garden soil once the plants are growing. Which of the following is *least likely* to be her reason for doing this?
- A to prevent weeds from growing
  - B to keep insects off the plants
  - C to keep the soil moist
  - D to improve the growing conditions for the plants
5. Lisa takes a soil sample from her yard to determine if the soil is suitable for growing the types of plants she hopes to cultivate. She learns that the soil is not acidic enough. What should Lisa do?
- A add lime to the soil to make it more alkaline
  - B add peat moss to the soil to make it chemically neutral
  - C add sulfur to the soil to make it less alkaline
  - D add organic matter to the soil to decrease the acidity

**CONTINUE**

## “School Censorship”

Adults in one community have formed a “Reading List Action Group” to challenge the inclusion of certain books on the required reading list at the local high school. These books address themes and contain language that many in the community consider objectionable and/or inappropriate. The group argues that the school should not force students to read and discuss issues and material that their parents or guardians find objectionable; instead, the question of when and how to discuss these matters with children should be made at home. The following letter **in disagreement** with this point of view appeared in the local newspaper:

*School reading materials should be selected by educators in consultation with members of the community, including students and their parents or guardians, and should cover a wide range of ideas. Material should never be excluded or removed simply because it expresses unpopular or controversial views. Such diversity is protected by our constitutional guarantees.*

*One goal of public education is to develop in children the intellectual capacities required for the effective exercise of the rights and duties of citizenship. Experience has shown that this is best accomplished in an atmosphere of free inquiry and discussion.*

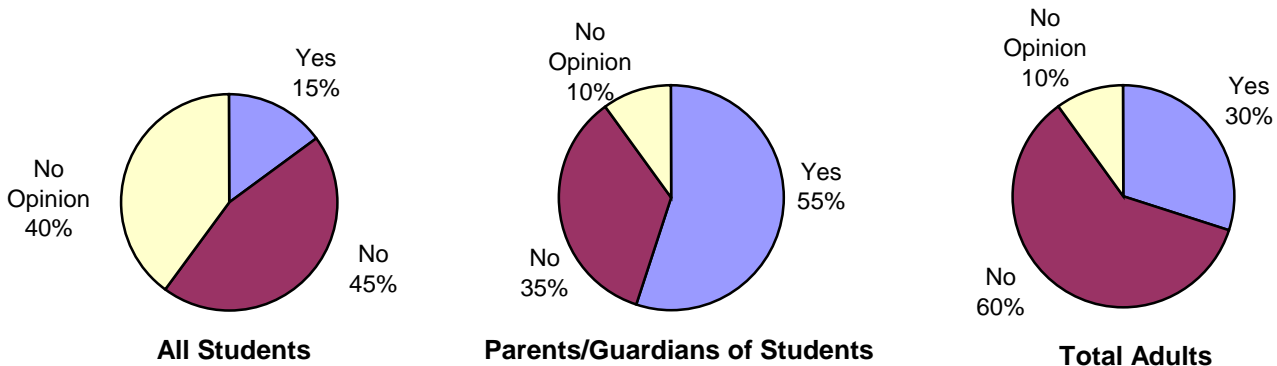
*Sincerely,*

*A First Amendment Supporter*

The First Amendment to the United States Constitution protects such rights as freedom of the press, freedom of speech, the right to public assembly, and the right to petition the government.

The newspaper conducted a survey of people’s opinions about removing controversial books from the high school reading list. Here are the results:

### Should the high school be forced to remove controversial books from its required reading list?



**CONTINUE**

6. The school board decides to remove the controversial books from the reading list. Those disappointed by this outcome decide to appeal to the government to reverse it. What is the **best** way for them to achieve their goal?
- A Challenge the constitutionality of the decision through the court system.
  - B Convince the police to disband the “Reading List Action Group.”
  - C Sponsor a bill that makes certain books required reading in schools.
  - D Vote for a congressional representative who supports their view.
7. What does the survey reveal about **most** parents and guardians of students in this community?
- A They belong to the “Reading List Action Group.”
  - B They agree with *A First Amendment Supporter*.
  - C They disagree with the adults in the community on the issue.
  - D They have not yet made up their minds on the issue.
8. The newspaper conducted another survey of people’s opinions on the same issue a week later. The results of the survey turned out to be significantly different from those of the previous one. Which of the following is an **unlikely** reason for this disparity?
- A The survey question was phrased in a different way.
  - B The newspaper surveyed a different group of people.
  - C People had been exposed to more information about the issue.
  - D People’s views about censorship and values change frequently.
9. According to *A First Amendment Supporter*, what will be the impact of removing free inquiry and discussion from public education?
- A It will lead to an overall reduction in literacy rates in the long run.
  - B It will make it more difficult for students to become informed citizens.
  - C It will cause students to accept unpopular or controversial views.
  - D It will decrease the number of books published in the country.

**CONTINUE**

## “Sewing Business”

Kristin is in college and wants to earn spending money. She had a job on campus at the beginning of the semester but quit because the hours interfered with her studies. Because she would like a job with hours that are more flexible, Kristin has decided to sew clothes to sell. She now has many decisions to make as she attempts to develop a business plan. Answer the questions that follow.

10. Determining the target market and the kinds of products to sell are the first steps in developing a business plan. Kristin has already decided to concentrate on selling her clothing creations to her college peers. What is the *best* way for her to determine which fabrics and colors they would prefer?
- A studying the trends pictured in fashion magazines and assuming they reflect the tastes of students on her campus
  - B asking her professors what students wear to class
  - C watching students as they enter and depart from the student union and recording what she sees
  - D asking the opinion of the owner and managers of her favorite fabric store
11. A good business plan must also include realistic financial goals and objectives. Kristin’s goal is to create and sell a minimum of ten clothing items per week. Each week she wants to have a variety of dresses, slacks, and custom T-shirts available from which her customers can select. She estimates that she will make a \$25 profit on each dress sold, a \$30 profit on each pair of slacks sold, and a \$20 profit on each custom T-shirt sold. Which combination of items should Kristin create and sell to maximize her profits?
- A 5 dresses, 3 pair of slacks, and 2 T-shirts
  - B 6 T-shirts, 2 dresses, and 2 pair of slacks
  - C 4 dresses, 4 pair of slacks, and 2 T-shirts
  - D 5 pair of slacks, 3 dresses, and 2 T-shirts

**CONTINUE**

12. Kristin notices that she sells all of the custom T-shirts she makes each week and about 30% of the slacks and dresses she makes each week. Keeping in mind that she makes a \$25 profit on each dress sold, a \$30 profit on each pair of slacks sold, and a \$20 profit on each custom T-shirt, which of the following will **most likely** increase her profits?
- A changing the design of the slacks and the dresses
  - B continuing to make the same amount of garments each week
  - C focusing more resources on the custom T-shirts and reducing the number of the other garments
  - D making more custom T-shirts so that she can sell them at a lower price
13. Kristin wanted to retrieve an old pattern she stored in her trunk last semester. While sitting in the dormitory's basement, apparently the trunk had begun to rust, making it difficult to open. She realized she would have to use force to pry the trunk's top open. Which of the following devices would be **most helpful** to her?
- A pulley
  - B screw
  - C lever
  - D axle
14. Last night on the news program, Kristin heard an economist say that our nation is entering a mild recession. She wonders what impact, if any, the recession might have on her business. Which of the following is a realistic possibility?
- A The rate of inflation will increase sharply, and her customers will no longer be able to afford her prices.
  - B Disposable income will decrease and customers may be less likely to spend money on clothes.
  - C Wages will rise and customers will spend more on clothes.
  - D Massive unemployment will prevail, and many students will be forced to drop out of school.

**CONTINUE**

	Tasks Performed	Rate Per Hour	Hours to be Worked Per Week	Increase in Finished Garments Produced Per Week
Candidate #1	Cuts fabric only	\$6.00	20	6
Candidate #2	Stitches fabric only	\$7.00	15	8
Candidate #3	Cuts and stitches	\$8.00	12	11

15. Kristin has decided to hire a part-time employee to help her deal with the demands of her growing business. After interviewing three people, she cannot decide who to hire. Based upon the tasks they are capable of performing and number of hours they will work each week, Kristin has determined how many additional garments she can create per week with the help of each candidate. Kristin's objective is to hire the candidate that will make the largest contribution to the total garments produced, but at the lowest cost per garment to her. Based on the information in the chart, whom should she hire?
- A Candidate #1
  - B Candidate #2
  - C Candidate #3
  - D It does not matter, since they each yield the same level of productivity.

16. While sitting at her sewing table yesterday, Kristin rubbed her bare feet back and forward on the carpeted floor to keep them warm. A few minutes later, someone knocked at her door and when she opened it, Kristin received an electric shock. Why did this happen?
- A The shock was caused by static electricity in the carpet.
  - B The shock was caused by static electricity left over from the previous day's thunderstorm.
  - C The shock was caused by an electromagnetic field that always encompasses metal objects such as doorknobs.
  - D The shock occurred because Kristin forgot to turn off the sewing machine before getting up to answer the door.

**CONTINUE**

## “Soil Erosion”

Mary has been learning about the influence of environmental factors on the economy. She has read about the effect of soil erosion on farming and the approaches that have been taken in tackling the problem. Read the article below and answer the questions that follow.

### Where Did the Soil Go?

Soil erosion is a significant problem in the United States. In a study of 283 farms, 236 were found to be experiencing enough soil erosion to cause permanent damage. Between the late 1800s and late 1900s, the corn producing state of Iowa lost half of its topsoil due to erosion. With the lost soil problem, the ability of the world to grow enough food to feed its population comes seriously into question.

Soil does not simply disappear when it erodes. It is removed, transported, and deposited into lakes, rivers, and oceans. This clogs water supplies and is costly to clean.

One approach to the problem of soil erosion is the practice of “no-till” farming. In this practice the remains of a previous year’s farming are not turned over. Rather they are left and new crops are planted over them. While the soil is eroded at a much lower rate, the farmer must use special equipment, and heavier treatments of chemical herbicides and pesticides, to control weeds and pests attracted to the untilled land and decaying plant matter. A second less invasive approach of farmers using tilling is to build dams, and create terraces and ponds to control water flow over the land.

**CONTINUE**

17. What would an environmentalist **probably** see as the greatest issue associated with combating soil erosion?
- A loss of land available for food production
  - B required use of specialized farming equipment
  - C loss of topsoil to rivers and streams
  - D increased use of chemical herbicides and pesticides
18. No-till farming has become widespread in its use. Which group of people would **most likely** have objections to its use?
- A farmers
  - B conservationists
  - C soil scientists
  - D politicians
19. What is the **most likely** reason no-till farming requires increased use of herbicides?
- A Perennial weeds (those that survive the winter) grow larger and reproduce into new plants.
  - B Soil erosion blows new weed seeds across larger areas because the seeds are not plowed under.
  - C Old crops genetically mutate to form undesirable new species of plants.
  - D More protection from weeds is simply better protection from weeds.
20. On average, more than 30,000 acres of land are converted from agricultural use to public use (e.g., city expansion, highways, airports, etc.) each year. Which of the following does this affect the **most**?
- A rate of soil erosion
  - B ability to utilize no-till farming
  - C need for chemical treatment of soil
  - D land available for food production



## Problem Solving Answers and Learning Objectives

1. The correct answer is B. This question requires you to plan logical steps and organize resources to accomplish a task within a given time frame (e.g., investigation).
2. The correct answer is A. This question requires you to apply elementary principles underlying mechanical, electrical, thermal, or chemical systems to make inferences.
3. The correct answer is D. This question requires you to apply elementary principles underlying mechanical, electrical, thermal, or chemical systems to make inferences.
4. The correct answer is B. This question requires you to apply elementary principles underlying mechanical, electrical, thermal, or chemical systems to make inferences.
5. The correct answer is C. This question requires you to apply elementary principles underlying mechanical, electrical, thermal, or chemical systems to make inferences.
6. The correct answer is A. This question requires you to analyze the roles of the executive, judicial, and legislative branches of the United States government to make informed choices as a productive, contributing citizen.
7. The correct answer is C. This question requires you to evaluate situations to determine conflict and resolution.
8. The correct answer is D. This question requires you to evaluate situations to determine conflict and resolution.
9. The correct answer is B. This question requires you to assess consequences of personal actions to determine legal, economic, political, environmental, and social impact.
10. The correct answer is C. This question requires you to plan logical steps and organize resources to accomplish a task within a given time frame (e.g., investigation).
11. The correct answer is D. This question requires you to determine the best economic value of several alternatives to make informed choices.

12. The correct answer is C. This question requires you to interpret information about the United States economic system to make informed choices related to a person's standard of living.
13. The correct answer is C. This question requires you to apply elementary principles underlying mechanical, electrical, thermal, or chemical systems to make inferences.
14. The correct answer is B. This question requires you to interpret information about the United States economic system to make informed choices related to a person's standard of living.
15. The correct answer is C. This question requires you to determine the best economic value of several alternatives to make informed choices.
16. The correct answer is A. This question requires you to apply elementary principles underlying mechanical, electrical, thermal, or chemical systems to make inferences.
17. The correct answer is D. This question requires you to assess consequences of personal actions to determine legal, economic, political, environmental, and social impact.
18. The correct answer is B. This question requires you to evaluate situations to determine conflict and resolution.
19. The correct answer is A. This question requires you to assess consequences of personal actions to determine legal, economic, political, environmental, and social impact.
20. The correct answer is D. This question requires you to assess consequences of personal actions to determine legal, economic, political, environmental, and social impact.

## Using Numbers and Data

The North Carolina High School Exit Exam — Using Numbers and Data Test assesses your ability to apply mathematical and data analysis skills and concepts to solve problems in a variety of contexts. The following five learning objectives are measured on this test (the approximate percentage of items measuring each learning objective is listed in parentheses):

You will be required to:

- apply real number operations and relationships (e.g., absolute value, radical expression, exponents) to solve problems related to home, work, and environment. (20%)
- apply formulas and expressions (e.g., area, perimeter, circumference, surface area, volume, Pythagorean Theorem, similar polygons, angle relationships) to solve problems related to home and work. (20%)
- make predictions by using algebraic concepts (e.g., tables, charts, algebraic equations, and coordinate graphs) to solve problems related to work, scientific investigations, and consumer issues. (20%)
- make predictions by using data analysis and probability (e.g., measures of central tendency, regression equations, theoretical probability) to solve problems related to home, scientific investigations, and work. (20%)
- use relationships among fractions, decimals, and percents to demonstrate understanding of mathematical and scientific concepts. (20%)

The following questions are examples of types of items you will see on the North Carolina High School Exit Exam — Using Numbers and Data Test. While this sample has only 16 questions, the actual test will consist of approximately 60–80 questions.

## “Training for a Marathon”

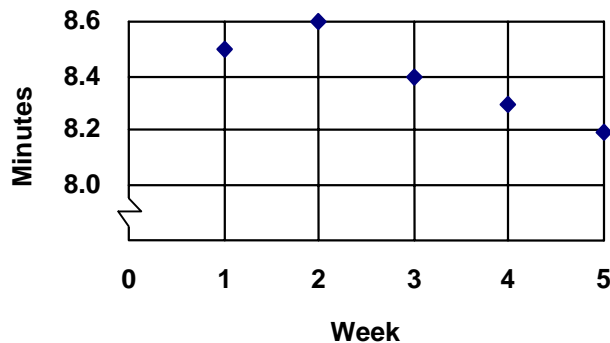
Terry decided to try to qualify for the Boston Marathon, a 26.2-mile race. He is told that he must run a qualifying race that meets the following criteria:

### Boston Qualifying Times

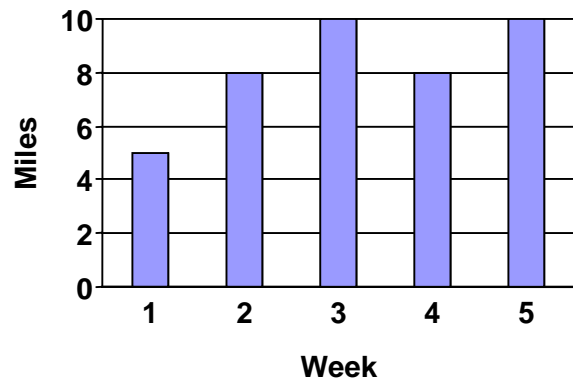
<i>Age Group</i>	<i>Men</i>	<i>Women</i>
18–34	3 hrs 10 min	3 hrs 40 min
35–39	3 hrs 15 min	3 hrs 45 min
40–44	3 hrs 20 min	3 hrs 50 min
45–49	3 hrs 25 min	3 hrs 55 min
50–54	3 hrs 30 min	4 hrs 0 min
55–59	3 hrs 35 min	4 hrs 5 min
60–64	3 hrs 40 min	4 hrs 10 min
65–69	3 hrs 45 min	4 hrs 15 min
70+	3 hrs 50 min	4 hrs 20 min

He decides to run the North Carolina Run for Peace Marathon to try to qualify for the Boston Marathon. His training regimen includes running 4 miles on the weekdays, hill training every Wednesday, and a long run on the weekend. His sister, Sheryl, will help him train for the race by keeping time and analyzing his weekend runs. She has drawn a diagram of the practice hill and organized data from his first five weekend runs into graphs. Use the data to answer the questions that follow.

**Terry’s Average Mile Time for Weekend Runs**



**Terry’s Total Distance for Weekend Runs**



**CONTINUE**

1. Terry is analyzing the lengths of each weekend run. How long did Terry take to finish his second weekend run?
- A 1 hour 26 minutes 10 seconds
  - B 1 hour 16 minutes 30 seconds
  - C 1 hour 8 minutes 48 seconds
  - D 1 hour 7 minutes 12 seconds
2. If Terry, who just turned 18, continues decreasing his time at the rate he has for the last two weeks, in how many more weeks will he first attain the average mile time necessary to qualify for the Boston Marathon?
- A 7 weeks
  - B 8 weeks
  - C 9 weeks
  - D 10 weeks

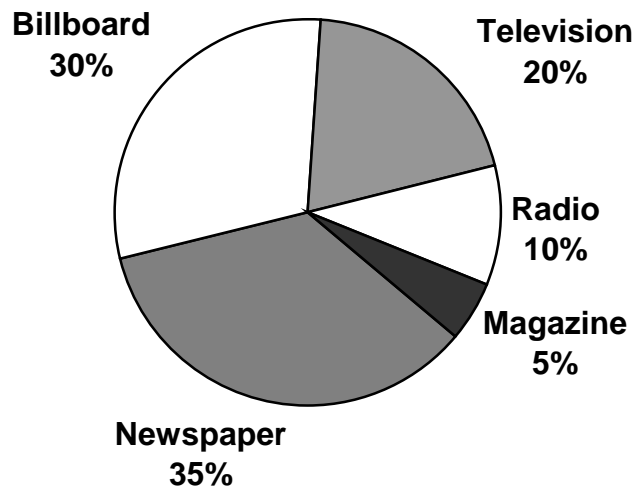
**CONTINUE**

## “Advertising”

Werner Company, an accounting firm, is helping a Burlington business try to increase its sales by consulting with company employees on their advertising expenditures. Over the past three months, Werner Co. has gathered data by surveying consumers and by analyzing expenses versus revenues. They have organized this information into tables and graphs, and they are now prepared to make their recommendations. Use the data to answer the questions that follow.

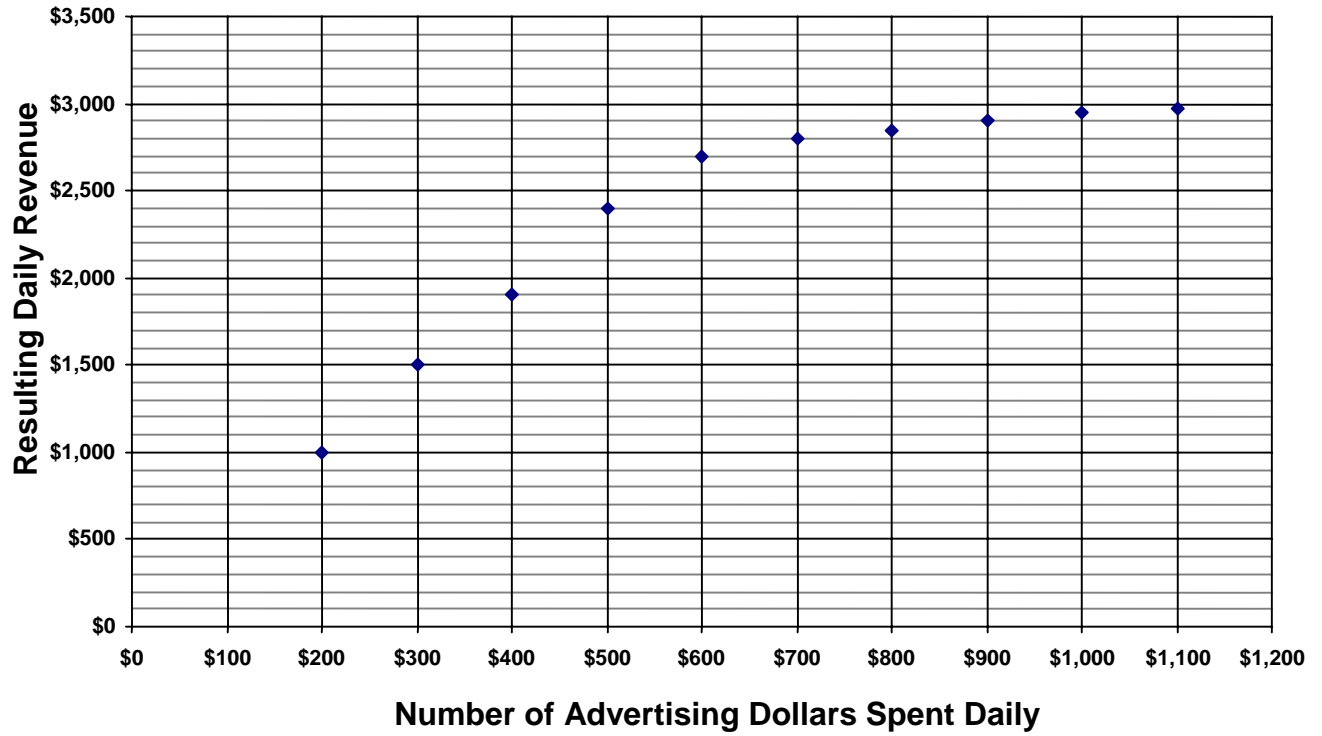
<b>Results of Survey Question: How did you hear about our company?</b>			
	<b>September</b>	<b>October</b>	<b>November</b>
<b>Television</b>	125	139	164
<b>Radio</b>	92	110	127
<b>Magazine</b>	12	14	16
<b>Newspaper</b>	158	160	162
<b>Billboard</b>	212	215	217
<b>Recommendation from a friend</b>	87	96	80
<b>Other</b>	46	40	50
<b>Total number of people that answered the survey</b>	732	774	816

### Breakdown of Average Monthly Advertising Expenses



**CONTINUE**

### Advertising Cost/Benefit Analysis



**CONTINUE**

3. According to the data, what is the *best* recommendation Werner Co. can give the company on its advertising expenses?
- A Spend no less than \$1,000 per day.
  - B Spend no less than \$700 per day.
  - C Spend no more than \$700 per day.
  - D Spend no more than \$400 per day.
4. Werner Co. is recommending an increase in television and radio advertising expenses based on the survey results. If the trend found in the survey continues, *approximately* what percentage of people do they expect to learn about the company from television and radio advertising in December?
- A 30%
  - B 40%
  - C 50%
  - D 60%
5. If the business is trying to achieve a resulting daily revenue of \$1,250, about how much of the daily advertising expenses would be spent on newspaper ads?
- A \$88
  - B \$96
  - C \$102
  - D \$106

**CONTINUE**

6. Werner Co. suggests that the percent breakdown of advertising dollars should be comparable to the way in which people responded to the survey. Using the table and graph on page 58, which of the following categories had less money spent on advertising in September in comparison to how people responded to the survey?
- A magazine
  - B newspaper
  - C radio
  - D television

**CONTINUE**

## “Cereal Prizes”

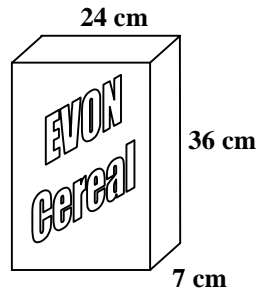
The Evon Cereal Company runs an annual contest. Every box of cereal contains a game piece that indicates which prize was won or says, “Sorry. Try again.” The company allows people to mail in losing game pieces for entry into a second chance sweepstakes drawing. Use the data to answer the questions that follow.

<b>Game Piece Prize Table</b>	
<b>Prizes</b>	<b>Number Available</b>
\$100,000	1
Vacation	1
Car	1
Television	150
Movie Tickets	4,000
Hats	7,500
Shirts	12,500
Free Cereal Coupons	100,000

(The number of available prizes has remained constant.)

<b>Millions of Boxes Produced and Sold Annually</b>					
	1996	1997	1998	1999	2000
Produced	2.4	3.0	3.7	4.7	5.3
Sold	1.8	2.1	3.0	4.0	4.4

### Cereal Box Dimensions

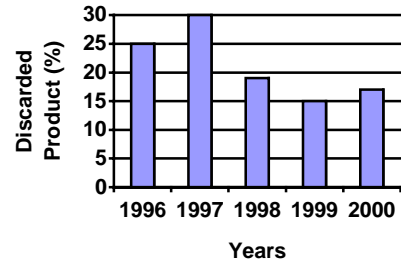


**CONTINUE**

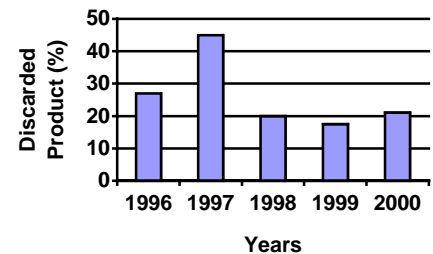
7. The local supermarket averages annual sales of 10,000 boxes of this cereal. *Approximately* how many prizes from game pieces should have been won from that store in 1996?
- A 200
  - B 500
  - C 700
  - D 1,000
8. For the year 2001, the Evon cereal company wants to produce only 10% more boxes of cereal than they expect to be sold. Based on sales trends, *approximately* how many boxes of cereal should they plan to produce?
- A 4.8 million
  - B 5.7 million
  - C 6.2 million
  - D 9.6 million

9. The company needs to ensure that the product is always fresh for the consumer. The unsold product must be discarded each month. Which of the following graphs represents the percent of product per year that is discarded?

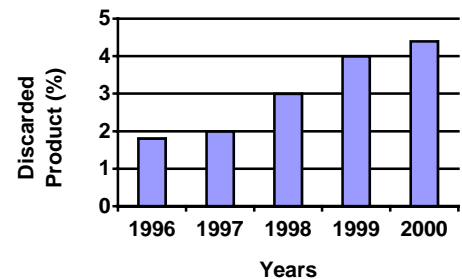
A



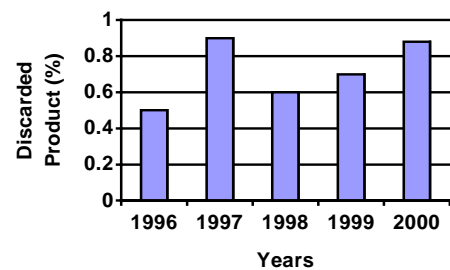
B



C



D



**CONTINUE**

10. In 2000, 3% of the “Sorry. Try Again.” tickets produced were mailed as entrants into the sweepstakes. The Roders family mailed in 26 of those tickets. What is the probability that the Roders will be picked to win the second chance sweepstakes drawing?
- A  $\frac{13}{79,000}$
- B  $\frac{26}{155,275}$
- C  $\frac{13}{66,000}$
- D  $\frac{26}{128,275}$
11. The company has decided to create a new economy-size box. The new box will have a 2 cm increase in width, a 2 cm increase in height, and a 2 cm increase in length. By *about* how much will the volume increase?
- A 9%
- B 32%
- C 47%
- D 68%

**CONTINUE**

## “Office Space”

The office building at NCP Corporation is becoming crowded because the corporation has been hiring additional people. The corporation has two types of workers: production and sales. There are 2 floors for the production employees in the building, and one floor for sales employees. The sales employees consist of 20% of the people working in the company. The 2 production employee floors contain enough space to give each of the 400 production employees 50 square feet of cubicle space. This space represents 80% of the space dedicated to all employees. Now that the company is growing too large for this space, it is looking for alternatives. Use the data to answer the questions that follow.

**Number of Production Employees at NCP by Year**

1995	1996	1997	1998	1999	2000	2001	2002	2003
120	154	192	221	260	297	331	362	400

12. Which of the following *best* describes the production employee growth pattern over time?

- A It is increasing by about 35 employees per year.
- B It is increasing by about 31 employees per year.
- C It is increasing by about 29% per year.
- D It is increasing by about 15% per year.

13. What is the total square footage devoted to production employee space in the office building?

- A 500 square feet
- B 10,000 square feet
- C 20,000 square feet
- D 25,000 square feet

**CONTINUE**

14. Starting with the year 2004, NCP Corporation expects to increase the number of production employees by 5% each year. If that happens, what will be the first year the number of employees exceeds 600?
- A 2009
  - B 2010
  - C 2011
  - D 2012
15. NCP Corporation is considering relocating to a new building where all employees (production employees and sales employees) will have the same square footage of cubicle space. If 20% of the corporation is sales, and they want a building that will accommodate 640 production employees in cubicles that are 8 feet by 9 feet each, how much square footage does the corporation have to devote to all cubicle space?
- A 9,216 square feet
  - B 36,864 square feet
  - C 46,080 square feet
  - D 57,600 square feet
16. A financial report that NCP Corporation must send to its board of directors states that the average salary at this site was \$46,000 in 2000. If the sales employees averaged \$50,000 for the year, what was the average salary of a production employee?
- A \$45,000
  - B \$42,000
  - C \$36,800
  - D \$30,000



## Using Numbers and Data Answers and Learning Objectives

1. The correct answer is C. This question requires you to apply real number operations and relationships (e.g., absolute value, radical expression, exponents) to solve problems related to home, work, and environment.
2. The correct answer is D. This question requires you to make predictions by using data analysis and probability (e.g., measures of central tendency, regression equations, theoretical probability) to solve problems related to home, scientific investigations, and work.
3. The correct answer is C. This question requires you to make predictions by using algebraic concepts (e.g., tables, charts, algebraic equations, and coordinate graphs) to solve problems related to work, scientific investigations, and consumer issues.
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8. The correct answer is B. This question requires you to make predictions by using data analysis and probability (e.g., measures of central tendency, regression equations, theoretical probability) to solve problems related to home, scientific investigations, and work.

9. The correct answer is A. This question requires you to use relationships among fractions, decimals, and percents to demonstrate understanding of mathematical and scientific concepts.
10. The correct answer is B. This question requires you to make predictions by using data analysis and probability (e.g., measures of central tendency, regression equations, theoretical probability) to solve problems related to home, scientific investigations, and work.
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16. The correct answer is A. This question requires you to make predictions by using data analysis and probability (e.g., measures of central tendency, regression equations, theoretical probability) to solve problems related to home, scientific investigations, and work.



## **ACKNOWLEDGEMENTS**

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