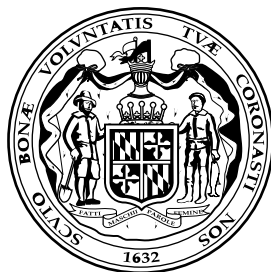


Test Examiner's Manual

Mathematics

Goal 1: Functions and Algebra

Goal 3: Data Analysis and Probability



Maryland High School Assessment

January 2002

MARYLAND STATE BOARD OF EDUCATION
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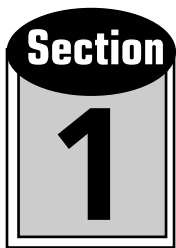
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General Information

DESCRIPTION OF THE TESTS

The Maryland High School Assessments are a series of end-of-course tests that cover core academic areas in English, mathematics, science, and social studies. Twelve tests will be phased in over a period of years, and students will eventually have to take ten tests. Currently, five tests have been developed: English 1, algebra/data analysis, geometry, biology, and government.

Maryland educators have played a vital role in developing the overall high school assessment plan and the tests themselves. Maryland teachers are involved in selecting materials for the tests, writing test items, and reviewing test items for content accuracy, difficulty, and fairness.

This manual provides directions for administering the January 2002 tests. Each content area test will be administered on a single day throughout Maryland. Each test takes approximately three hours to administer, including a short break.

The tests consist of selected response, student produced response, and constructed response test items. There are two types of constructed response items: brief constructed response and extended constructed response. Both types require students to write (rather than select) an appropriate response. The student produced response items require students to bubble in the answer on a response grid. Students record responses to all test questions in a separate Answer Book.

By following the guidelines in this manual, you can help ensure that the tests will be valid and equitable for all students. After the test administration, comments regarding clarity of directions and information provided in this manual may be emailed to hsa@msde.state.md.us.

TESTING INFORMATION

Test Examiner's Manuals, Student Test Books, and Answer Books arrive in the school building by December 19, 2001

Testing Days January 14–18, 2002

Make-Up Testing Days January 22–February 4, 2002

Return materials by the date provided to you by your School Test Coordinator (STC).

For test material shortages or questions, contact your STC.

TEST SCHEDULE

The tests will be administered the week of January 14–18, 2002. A single date has been designated for each content area test. The table below shows the administration schedule for the January 2002 tests.

TABLE 1
**Required Assessment Administration Schedule
for January 2002 Tests**

Day	Date	Test
Monday	1/14/02	Biology
Tuesday	1/15/02	Mathematics Goals 1 and 3
Wednesday	1/16/02	Government
Thursday	1/17/02	Mathematics Goal 2
Friday	1/18/02	English 1

MAKE-UP SCHEDULE

For the 2002 administrations, if a student is absent or if a school has an unscheduled closing or delayed opening that prohibits the administrations from occurring on the scheduled dates above, the test(s) must be administered according to the dates shown in Table 2.

TABLE 2**Required Make-Up Assessment Administration Schedule,
January 22–28, 2002**

Day	Date	Test
Tuesday	1/22/02	Biology
Wednesday	1/23/02	Mathematics Goals 1 and 3
Thursday	1/24/02	Government
Friday	1/25/02	Mathematics Goal 2
Monday	1/28/02	English 1

If a student is absent during the first make-up week or if a school again has an unscheduled closing or delayed opening that prohibits testing on the dates in Table 2, the schedule shown in Table 3 must be followed.

TABLE 3**Required Make-Up Assessment Administration Schedule,
January 29–February 4, 2002**

Day	Date	Test
Tuesday	1/29/02	Biology
Wednesday	1/30/02	Mathematics Goals 1 and 3
Thursday	1/31/02	Government
Friday	2/1/02	Mathematics Goal 2
Monday	2/4/02	English 1

ADMINISTRATION MONITORING BY MSDE

During the administration of the Maryland High School Assessment test, the Maryland State Department of Education (MSDE) will have testing monitors in selected schools to observe administration procedures and testing conditions. All monitors will have identification cards for security purposes. There may or may not be prior notification of which schools will be monitored, but monitors will follow local procedures for reporting to the school's main office and giving proper notification that an MSDE monitor is in the building.

TESTING MATERIALS

You will receive your test materials from your STC. Please make sure you have the following materials. If any materials are missing, notify your STC.

For the Test Examiner

- Test Examiner's Manual
- Materials Return Form (provided by your STC)
- Testing Irregularities Record (see Appendix B)
- Pre-printed student ID labels (Any student not having a pre-printed student ID label—or having a label with incorrect information—must be given a generic ID label, which can be obtained from your STC.)

For each student

- Student Test Book
- Answer Book
- Formula Reference Sheet/Rubric Sheet/Cues for Students

In addition to the test materials provided, each student will need the materials listed below.

- two No. 2 pencils with erasers
- scratch paper
- straightedge (ruler or index card)
- graph paper, $\frac{1}{4}$ " x $\frac{1}{4}$ " grid or comparable size (one sheet per student plus extra to be available as needed)
- graphing calculator (extra batteries should be available)

The graphing calculator must have the following minimum capabilities:

- table functions
- point plotting
- intersection of two lines (using a graph, a table, or equations)
- statistics: mean, median, maximum, minimum, quartiles, line of best fit
- maxima and minima of a function
- matrices: addition, subtraction, and scalar multiplication

Calculators may not be shared by students. The following are graphing calculators that have the capabilities needed for the high school assessments in mathematics as of August 2001:

Casio: FX-7700, CFX-9800, CFX-9850G, CFX-9850GA PLUS,
CFX-9850GB PLUS, CFX-9870G, Algebra FX 2.0,
CFX-9970G

Hewlett Packard: HP-38G, HP-48G, HP-49G, HP-39G, HP-40G

Sharp: EL-9300, EL-9600

Texas Instruments: TI-82, TI-83, TI-83 Plus, TI-83 Plus Silver Edition, TI-86,
TI-89, TI-92, TI-92 Plus

For security reasons, calculators with alphanumeric keyboards must have the memories cleared before the students begin testing and at the completion of the test. (Currently, these are the TI-92 and the TI-92 Plus.) Directions for clearing memory are included on pages 19 and 20 of this manual.

NOTE: To facilitate distribution of the test materials, Test Examiners are strongly encouraged to pre-package the non-secure materials in an envelope or sealable plastic bag before the test administration date. Secure materials (Student Test Books and Answer Books) may not be included in the pre-packaged materials until the day of testing.

You will also need the following additional materials:

- a sign for the door that says "Testing: Do Not Disturb"
- a digital clock or a watch or clock with a second hand

TEST SECURITY

Code of Ethics and State Board Security Regulations

The following code of ethics conforms to the Standards for Educational and Psychological Testing developed by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education:

It is a breach of professional ethics for school personnel to provide verbal or nonverbal clues or answers, teach items on the test, share writing prompts, coach, hint, or in any way influence a student's performance during the testing situation. A breach of ethics may result in invalidation of test results and Local Education Agency or MSDE disciplinary action.

During the test administration week

- Test Examiners may view **secure** materials 24 hours prior to the scheduled date of testing. Student Test Books and Answer Books must be viewed in a secure location under the supervision of the STC.
- Test Examiners will receive Student Test Books from the STC on the morning of the scheduled test date.
- Non-certified staff may have access to **secure** materials for clerical purposes as approved by the Local Accountability Coordinator (LAC) and only if supervised by the STC. Non-certified staff may perform such activities as taking inventory of materials or applying labels to Answer Books.

No access to secure materials

- Proctors and members of the general public are not allowed access to secure test materials. The legal authority for this denial is found in §10-618(c) of the State Government Article, Annotated Code of Maryland, which stipulates the following:

Subject to paragraph (2) of this subsection, a custodian may deny inspection of test questions, scoring keys, and other examination information that relates to the administration of licenses, employment, or academic matters.

Proctors and the general public may view public release forms. These forms are non-secure and are available on the MSDE website (<http://www.mdk12.org>).

TEST PREPARATION

Eligible and Non-Eligible Test Examiners and Proctors

Eligible Test Examiners

Eligible Test Examiners for Maryland High School Assessment test administrations should be state-certified, professional school staff, and include the following:

- state-certified academic classroom teachers (Certification is not required in the content area in which the teacher is serving as Test Examiner.)
- other state-certified teachers who teach special education, the gifted and talented, and ESL

- academic classroom, special education, gifted and talented, and ESL teachers with provisional certification
- state-certified teachers in physical education, art, home economics, industrial arts, and so forth
- guidance counselors, media specialists, school psychologists, and school administrators
- other state-certified teachers who may be working as instructional assistants, aides, or regular substitutes
- instructional assistants or aides who are regular employees of the school district for the purpose of providing instruction, even if they have no state certificate **for the purpose of providing allowed accommodations for an individual student** (The assistants or aides must be under the supervision of a state-certified, eligible Test Examiner.)

Non-Eligible Test Examiners

Regular and/or certified staff who are not eligible as Test Examiners include the following:

- non-certified instructional assistants and aides who are not regular employees of the school district (e.g., student teachers and parents who serve as regular volunteers)
- state-certified teachers who are not regular employees of the school system and who are not on a substitute list

Proctors

Non-eligible personnel may provide assistance during test administration as proctors only. The decision to use proctors and to choose who may act as proctors is a local school system option. The proctors may assist in the following ways:

- help the Test Examiner distribute and collect testing materials
- walk around the room and observe students during the entire testing period
- ensure that students are working on the correct test session and not on any other session

• • • • •
 Before the testing date, instruct proctors on their roles and responsibilities. See Step 4 on page 15 for details.
 • • • • •

- remind students who finish early to check their work in that test session
- monitor students who finish early to ensure they are not reading other materials or disturbing students who are still working

Parents may serve as proctors only if they regularly serve as volunteers in the local school system. The use of non-certified instructional assistants, aides, and parents as proctors is a local school system option. The Test Examiners must understand that they, not the proctors, are solely responsible for a smooth and standardized test administration, as well as the protection of the security of the test materials. Proctors are also bound by the security/confidentiality regulations and must not be allowed to view secure materials. As a general rule, one proctor for every 25 students is recommended.

Backup Test Examiners

A local school system may train backup Test Examiners to serve as an examiner when a regular Test Examiner is ill. If these trained Test Examiners are not used, they may serve as proctors. If they serve as proctors, they must work under the direction of the Test Examiner and may **not** have access to the secure materials for the test to which they are assigned.

TESTING CAUTIONS

- 1 *Coaching.* Make sure that all students understand the directions for taking the test. The Test Examiner or the proctors may assist the students with the mechanics of test taking, such as helping students find the correct place in the test book. However, no one should provide assistance that will inadvertently or otherwise indicate an answer; this is a test, not a learning activity. Do not indicate the correct response to any question except to sample questions.
- 2 *Guessing.* Encourage students to attempt all questions, even those dealing with content that is unfamiliar. Students should be encouraged to make their most careful choice or write their best response for each question and then go on. A guess may receive credit, but a blank will not; however, avoid using the term “guessing,” as this may encourage random marking.
- 3 *Random Marking.* The students should not mark answers randomly. Random marking indicates that the student has no understanding of the question. If you determine that a student is marking answers randomly, encourage the student to make his or her best effort at answering the questions.

Section 2

Before Testing

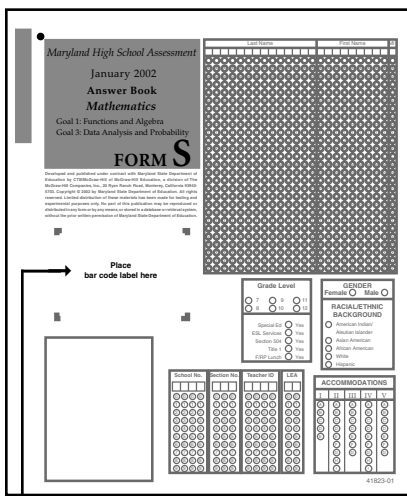
Step 1 *Plan Your Testing Schedule*

- The testing week is January 14–18, 2002. Administer the test on the date assigned, according to the testing schedule in Table 1 on page 2. If students are absent or if the school had an unscheduled closing or delayed opening during the testing week, then the make-up testing schedule in Table 2 on page 3 must be followed. An additional make-up testing schedule is offered in Table 3 on page 3. Follow this schedule **only** if necessary.
- Schedule testing to allow sufficient time for instructions and preparations. Each test will require approximately three hours, including time for students to listen to the directions read to them by the Test Examiner and to take a short break between Session 1 and Session 2.
- One proctor for every 25 students is recommended. If proctors will be used, instruct them in their roles and responsibilities prior to the testing date.
- Avoid testing just after students have had strenuous physical activity or after lunch shifts.

Step 2 *Review Test Materials and Prepare Answer Books*

Before testing begins, make sure you have all the materials you will need for testing. For a list of the materials needed, refer to pages 4 and 5 of this manual. Make sure all test materials are stored in a secure location prior to test administration.

If the pre-printed student ID labels have not been applied by your STC, allow sufficient time prior to testing to affix the pre-printed student ID labels to the front of the Answer Books. The labels are arranged on the label sheets in columns of three. **Please be sure to affix only the labels in the center column.** The labels in the left-hand column should be retained by your school. The labels in the right-hand column have been intentionally left blank. When



Place student label here.

affixing each label, be sure to place it exactly in the space as shown to the left.

For those students who do not have a pre-printed student ID label (or for whom the information on the label is incorrect), affix a generic ID label (provided by your STC). Do not place the generic ID label on top of a pre-printed student ID label. If a generic label is needed, it must be placed on a new Answer Book. Only students with generic ID labels must complete the biographical data grids. This should be done at the **end** of the testing period. The information grids for students with disabilities are also to be completed **after** the test is administered. Check with your STC to determine if you are to fill in the information grids for accommodations and teacher ID.

Step 3

Prepare the Testing Location

Create an Effective Testing Environment

Provide a testing location that has comfortable seating, sufficient workspace, and good lighting. Make sure there is sufficient room for the Test Examiner and proctors to walk around desks while observing students. The room should be adequately ventilated and free from distracting noises. Post a "Testing: Do Not Disturb" sign on the door to prevent interruptions. Separate students so they cannot see other students' answers.

At the beginning of the test administration, students should be instructed to remove all materials from their desks and place them in a section of the room away from the immediate testing area. Only test books and items listed in the test materials list should be on the students' desks. At the end of the test administration, students should turn in all testing materials, including scratch paper. Scratch paper and used Formula Reference Sheets/Rubric Sheets/Cues for Students must be destroyed after test administration. If students finish a session early, they may review any of their work in that session, but they may not go on or go back to another session.

Students who finish early should be encouraged to review their work in that session and to attempt to answer any questions left blank. Students who finish early may **not** have any reading or other materials on their desks, and they should not disturb those students still working.

Guidelines for the Use of Instructional Aids During the High School Assessment

The goal of these guidelines is to maintain a balance between regular instructional practice and the need for standardized and fair testing conditions around the state. LACs, STCs, principals, and Test Examiners are ultimately responsible for implementing standardized and appropriate test administrations. Therefore, it is essential to follow these guidelines and to ensure that only allowable instructional aids are available. Although STCs can answer questions that may arise about the appropriateness of a specific instructional aid, only the LACs can make final decisions. LACs may choose to implement requirements regarding instructional aids beyond, but not in conflict with, those described here.

The following list of allowable and prohibited instructional aids is meant to be instructive rather than exhaustive. The prohibited aids should not be displayed in the room or be available to students during the test administration. In general, and for all content areas, prohibited instructional aids are those that (a) define terms in the Maryland High School Core Learning Goals document, (b) give answers to test questions, or (c) direct student responses to test questions. The list is organized by content area to facilitate understanding.

TABLE 4

Examples of Allowable Aids	Examples of Prohibited Aids
English Language Arts	
MSDE English language arts rubrics for BCRs and ECRs	Personal writing journals
	Standard published English language dictionaries and thesauruses
	Word lists (both displayed and personal)
Mathematics	
Graphing calculators	Computers, electronic spellers, textbooks, calculator manuals
Generic steps for problem solving	Steps for solving specific mathematical problems (e.g., how to find percentages, how to use a protractor, how to do specific geometric constructions)
Examples of geometric figures (if unnamed)	Labeled or named geometric figures

Table 4 continued on next page.

Examples of Allowable Aids	Examples of Prohibited Aids
	Templates for geometric figures
	Published mathematical dictionaries that define terminology or concepts
	A completed graph or a completed model of a graph with labels or annotations indicating required components
Formula Reference Sheet provided with the testing materials	Mathematical formulas (e.g., $V=\pi r^2 h$) and conversion tables (e.g., in. to cm)
	Standard published English language dictionaries and thesauruses
Mathematics rubric for constructed response items and student cues for addressing the rubric criteria	Definitions of mathematical terms, mathematical symbols, and labeled models (e.g., of measuring tools) that appear or are referred to in the Maryland High School Core Learning Goals document
Poster of a calculator face	Posters or visual aids identifying calculator keys or functions
Trigonometry table	
Algebra blocks/tiles	
Science	
Science rubric for constructed response items	Displayed or personal instructional aids that provide definitions or examples of concepts and terms provided in the expectations and indicators in the Maryland High School Core Learning Goals document
	Standard published English language dictionaries and thesauruses
	Published scientific/technical dictionaries that define terminology or concepts
	A completed graph or a completed model of a graph with labels or annotations indicating required components
	Calculators
Social Studies	
Published wall maps, globes, and wall charts if they are not labeled to identify or define required components of the Maryland High School Core Learning Goals document	Graphs and/or charts that identify or define components contained in the assessment limits of the Maryland High School Core Learning Goals document
Scoring rubrics	Standard published English language dictionaries and thesauruses

Other Considerations Regarding Allowable Instructional Aids

- Instructional aids cannot be developed, displayed, or available solely for the administration of the High School Assessment.
- **Allowable** instructional aids can be moved from one room to another or placed in a specific room during the administration of the assessment.
- Prohibited instructional aids must be removed or covered up in each testing room or area.
- If it is discovered that an instructional aid inadvertently provides a response to a test question, the aid should be removed or covered up immediately, and the STC and LAC should be contacted. This applies to the one-week test administration window and to the make-up test administration windows.

Step 4 *Train Proctors*

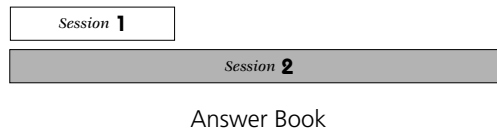
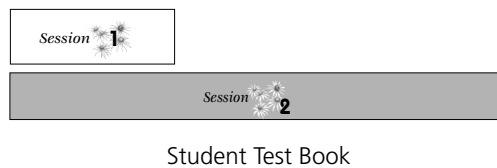
Prior to the test administration, inform proctors of their roles and responsibilities during testing.

Before testing, proctors may assist the Test Examiner by

- affixing pre-printed student ID labels to the front cover of Answer Books or affixing a generic ID label to an Answer Book for each student who does not have a pre-printed label or for whom the information on the pre-printed student ID label is incorrect
- removing or covering prohibited instructional aids (see Table 4 on pages 13 and 14)
- gathering additional materials students will need and preparing them for distribution to students

During testing, proctors may assist by

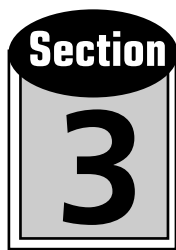
- helping to distribute and collect materials
- walking around the room and observing the testing behaviors of students
- ensuring that students are working only in the correct test session in both the Student Test Book and Answer Book by noting that the correct session tab at the top of the page is visible



- reminding students who finish early to check their work in that session for completeness and accuracy and to attempt to answer every question
- ensuring that students who finish early are not reading other materials or disturbing students who are still working

After testing, proctors may assist the Test Examiner by

- checking Answer Books to ensure that pre-printed student ID labels are affixed correctly, or if a generic ID label is affixed, that the gridded information is completed correctly
- erasing stray marks in Answer Books or darkening answer marks that are too light



Section
3

During Testing

In order to ensure accurate results, it is essential that all Test Examiners follow the same procedures when administering the tests.

This section provides specific directions for each test. Please read these directions carefully before administering the test.

The directions you are to read aloud to the students are printed in bold type and preceded by **SAY**.

*Information that is only for you and is **not** to be read aloud is indented and printed in italic type.*

Read the directions to students exactly as they are written, using a natural tone and manner. If you make a mistake in reading a direction, stop and say, "No, that is wrong. Listen again." Then read the direction again.

Please observe timing limits. You may announce the end of testing if all students complete the session early.

Be sure students understand the directions and how to mark answers. Assist them with test-taking mechanics, but be careful not to inadvertently give hints or clues that indicate an answer or help eliminate answer choices.

Inform students that they may write in the Student Test Book and may make notes, mark, underline, or highlight information to help them answer questions.

Encourage students to think about and plan their responses to constructed response questions and to refer to the Rubric Sheet to understand how their responses will be scored.

Encourage students to attempt all questions. Tell them to read each question carefully and make their best attempt at answering. Be careful not to imply that they should guess randomly.

Remind students to handle all materials with care; to record their answers with heavy, dark pencil marks; and to avoid making extra marks. The Answer Book pages should never be folded, clipped, or torn.

Begin the test session on time. Be sure that all desks are cleared, and see that each student has all of the testing materials listed on pages 4 and 5 of this manual.

To facilitate distribution of materials and to save time, it is recommended that all non-secure test materials be individually packaged and/or placed on the desks before students arrive for the test.

In order to ensure test security, it is imperative that all students using TI-92 or TI-92 Plus graphing calculators use the following procedure for resetting the memory. This procedure must occur both immediately before the test and at the conclusion of the test. It is the responsibility of each Test Examiner to confirm that, in every case, this procedure has been followed. Students should have backed up stored information to an alternative storage device. If any students refuse to clear their calculator's memory, they may not use the TI-92 or TI-92 Plus graphing calculator; they must use a different calculator.

If there are no students using the TI-92 or TI-92 Plus graphing calculator, you may skip the instructions below and go on to Step 6.

SAY

Those of you who will be using a TI-92 or TI-92 Plus graphing calculator during the test, please follow these instructions to reset the memory on your calculator.

First, to display the memory screen, press the key for memory.

To do this, first press the "2nd" key and then the "6" key.

Check to be sure the memory screen below is displayed on all TI-92 or TI-92 Plus graphing calculators.

MEMORY			
Expr	22	Text	0
List	9	GDB	0
Matrix	0	Data	122
Function	244	Figure	0
Program	319	Macro	0
Picture	30970	History	198
String	0	System	61510
		Memory Free	37678

Enter=OK

SAY

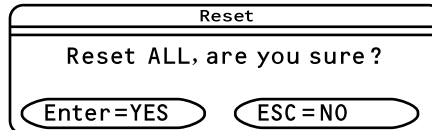
Now press the “F1” button and make sure that “All” is selected in the “Reset” box.

Check to be sure the picture below is displayed on all TI-92 or TI-92 Plus graphing calculators.

**SAY**

Press the “Enter” button.

Check to be sure the picture below is displayed on all TI-92 or TI-92 Plus graphing calculators. Then check each student’s calculator screen as you individually instruct each student to press the “Enter” button again. Make sure each screen is cleared.

**SAY**

You may now need to adjust the contrast on your display. To lighten the display, hold down the diamond (◊) button, then press the minus (–) button. To darken the display, hold down the diamond (◊) button, then press the plus (+) button.

When the students have finished adjusting the contrast, continue on to Step 6.

Step 6

Distribute the Test Materials

Before distributing the Answer Books, make sure the pre-printed student ID labels (and generic ID labels, if necessary) have been affixed to the front of the Answer Books for every student taking the test. (See Step 2 on page 11 of this manual.)

If the non-secure test materials have already been distributed, skip to the second SAY.

SAY

I am going to give you [a packet containing] scratch paper, graph paper, a folded sheet of paper, and other materials you will need. The folded sheet of paper contains a Formula Reference Sheet, Rubric Sheet, and Cues for Students.

Distribute the scratch paper, graph paper, Formula Reference Sheets/Rubric Sheets/ Cues for Students, No. 2 pencils, and straightedges (or the packets containing these materials).

SAY

Now I am going to give you your Answer Book. Do not open your Answer Book or write on it until I tell you to do so.

Distribute the Answer Books. Make sure each student receives the Answer Book with his or her name on the pre-printed student ID label (or with a generic ID label, if necessary).

SAY

Look at the label on the front of your Answer Book. Make sure the label of your Answer Book has your name on it.

Pause while students check to make sure they have the correct Answer Book. Read the next paragraph only if there are students with generic ID labels.

SAY

If your label does not have your name on it, you will need to bubble in the information on the cover after the class has completed the test.

Pause.

SAY

These next directions are for all students. In the spaces under LAST NAME, print one letter of your *last* name in each box. If your last name has more letters than there are boxes, print only as many letters as there are boxes. In the spaces under FIRST NAME, print one letter of your *first* name in each box. If there are not enough boxes, print only as many letters of your first name as there are boxes. In the space under MI, print your *middle initial*. If you do not have a middle name, do not print anything in this space. Please do not fill in any of the circles on your Answer Book cover.

Pause for students to write their name.

Step 7

Administer the Test

SAY

Now I am going to give you your Student Test Book. Please don't open your test book until I tell you what to do.

Distribute the Student Test Books. Each student should receive the same color Student Test Book as the Answer Book.

SAY

Your Student Test Book and Answer Book should be the same color. If they are not the same color, please raise your hand.

As necessary, provide students with a different Student Test Book so that they have the same color Answer Book and Student Test Book.

SAY

You have been given a folded sheet of paper that contains a Formula Reference Sheet, a Rubric Sheet, and the Cues for Students.

Hold up a copy of the Formula Reference Sheet/ Rubric Sheet/Cues for Students.

SAY

The Formula Reference Sheet is on the first two pages. It contains formulas that you may use at any time during testing. However, some of the formulas will not be needed for this test.

Point to the Formula Reference Sheet on the first two pages.

SAY

A Rubric Sheet is on the inside right-hand page. It provides information about how constructed response questions will be scored. The three-point rubric is used for scoring brief constructed response questions. The four-point rubric is used for scoring extended constructed response questions.

Point to the Rubric Sheet on the inside right-hand page.

SAY

Turn to the back of your Rubric Sheet and look at the Cues for Students. The Cues for Students explains some terms used in the rubrics.

Point to the Cues for Students on the back side of the Rubric Sheet.

SAY

Open your Student Test Book to page 1, which says "Session 1" at the top, and follow along as I read aloud the directions.

Pause for students to locate the correct page.

SAY**Response Grid Questions**

Several questions in this test require you to enter your answer on a special grid like the one shown below.

					} answer boxes
	/	/	/		
•	•	•	•	•	} decimal points
0	0	0	0	0	
1	1	1	1	1	
2	2	2	2	2	
3	3	3	3	3	
4	4	4	4	4	
5	5	5	5	5	
6	6	6	6	6	
7	7	7	7	7	
8	8	8	8	8	
9	9	9	9	9	

The questions requiring this grid are called Response Grid questions. The directions in your Student Test Book explain how you should record your answers to these questions.

Now I will read the Directions for Completing the Response Grids. Read the directions below to yourself as I read them aloud.

SAY**Directions for Completing the Response Grids**

1. Find the answer to the problem.
2. Write your answer in the boxes at the top of the grid.
 - Print your answer with the first digit (or symbol) in the left answer box, or with the last digit in the right answer box.
 - Print no more than one digit or symbol in each answer box. Do not leave a blank answer box in the middle of an answer.
 - Be sure to write a decimal point or fraction bar in the answer box if it is part of the answer.
3. Fill in the appropriate bubble under each box in which you wrote your answer.
 - Fill in only one bubble for each answer box used in your answer. Do not fill in a bubble under an unused answer box.
 - You must fill in the bubbles accurately to receive credit for your answer.

Now turn to page 2 in your Student Test Book. Continue to read the directions to yourself as I read them aloud.

SAY

Examples of Valid Responses

The Response Grids below show valid ways to enter an answer of $\frac{3}{2}$.

		3	/	2	
	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
0	0	0	0	0	
1	1	1	1	1	
2	2	2	2	2	<input checked="" type="radio"/>
3	3	<input checked="" type="radio"/>	3	3	
4	4	4	4	4	
5	5	5	5	5	
6	6	6	6	6	
7	7	7	7	7	
8	8	8	8	8	
9	9	9	9	9	

3	/	2			
	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
0	0	0	0	0	
1	1	1	1	1	
2	2	<input checked="" type="radio"/>	2	2	
<input checked="" type="radio"/>	3	3	3	3	
4	4	4	4	4	
5	5	5	5	5	
6	6	6	6	6	
7	7	7	7	7	
8	8	8	8	8	
9	9	9	9	9	

1	.	5			
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
0	0	0	0	0	
<input checked="" type="radio"/>	1	1	1	1	
2	2	2	2	2	
3	3	3	3	3	
4	4	4	4	4	
5	5	<input checked="" type="radio"/>	5	5	
6	6	6	6	6	
7	7	7	7	7	
8	8	8	8	8	
9	9	9	9	9	

	1	.	5	0	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
0	0	0	0	0	<input checked="" type="radio"/>
1	<input checked="" type="radio"/>	1	1	1	
2	2	2	2	2	
3	3	3	3	3	
4	4	4	4	4	
5	5	5	<input checked="" type="radio"/>	5	
6	6	6	6	6	
7	7	7	7	7	
8	8	8	8	8	
9	9	9	9	9	

Special Directions for Mixed Numbers, Decimals, and Negative Numbers

- Mixed numbers must be entered as decimals or improper fractions. For example, an answer of $1\frac{1}{2}$ should be entered as 1.5 or $\frac{3}{2}$.
- Decimal answers should be entered as accurately as possible unless otherwise indicated in the problem. Some answers may need to be rounded in order to fit in the Response Grid space.
- No Response Grid questions have negative answers.

Are there any questions?

Pause for questions.

SAY

Look at page 3 in your Student Test Book. Now we are going to look at the sample questions together. Look at Sample A. Read the sample to yourself as I read it aloud.

Use the Response Grid in the Answer Book to complete Sample A.

Sample A

Diana earned the scores below on her science tests.

79, 98, 85, 91

What is the mean of these scores?

SAY

Diana earned the scores below on her science tests.

79, 98, 85, 91

What is the mean of these scores?

Use the Response Grid on page 2 in the Answer Book to mark your answer.

Pause to allow students time to answer the item and mark the grid. Circulate to be sure that students are marking the grid for Sample A in the Answer Book.

SAY

The mean of the scores is 88.25. You should have written "88.25" in the answer boxes of the Response Grid for Sample A, and you should have filled in the appropriate bubbles.

Are there any questions?

Pause for questions.

SAY

Now go back to page 3 in your Student Test Book and look at Sample B. Read the sample to yourself as I read it aloud.

Look at the pattern below.

0, 2, 4, 6, 8, . . .

If the pattern continues, what will be the next term?

- A 2
- B 8
- C 10
- D 14

Sample B is a selected response question, so it is answered by filling in a circle. Mark your answer to Sample B in your Answer Book.

Sample B

Look at the pattern below.

0, 2, 4, 6, 8, . . .

If the pattern continues, what will be the next term?

- A 2
- B 8
- C 10
- D 14

Pause while students mark the answer to Sample B in their Answer Book.

SAY

The next term in the pattern is 10. You should have marked circle "C" because it is the correct answer. Are there any questions?

Pause for questions.

SAY

Now look at Sample C. Sample C is another example of a selected response question. Read the sample to yourself as I read it aloud.

The sum of the angles of a triangle is 180 degrees. The measures of two angles of a triangle are x and $3x$. Which of these expressions represents the measure of the third angle?

F $180 + x + 3x$

G $180 - x + 3x$

H $180 - x - 3x$

J $180 + x - 3x$

Mark your answer to Sample C in your Answer Book.

Pause while students work the problem and mark the answer to Sample C in their Answer Book.

SAY

The correct answer is H. You should have marked circle "H" because it is the correct answer. Now look at the directions under the sample box in your Answer Book. Follow along as I read the directions aloud.

- Selected response answer choices alternate between ABCD and FGHJ. Be sure that the circle you mark in your Answer Book matches the letter you choose in your Student Test Book.

Sample C

The sum of the angles of a triangle is 180 degrees. The measures of two angles of a triangle are x and $3x$. Which of these expressions represents the measure of the third angle?

F $180 + x + 3x$

G $180 - x + 3x$

H $180 - x - 3x$

J $180 + x - 3x$

SAY

- Make your mark heavy and dark, completely filling in a circle. If you make a mistake, erase your first mark completely before marking another answer.
- In addition to response grid questions and selected response questions, there will be constructed response questions that require a written answer. Brief constructed response questions, which require a short written answer, are labeled “BCR” below the question number in the Student Test Book and Answer Book. Extended constructed response questions, which require a longer written answer, are labeled “ECR” below the question number in the Student Test Book and Answer Book.
- Use the Rubric Sheet during the test to help you in planning and revising your responses.
- You may underline, mark, do your calculations, or make notes in your Student Test Book, or you may use scratch paper and graph paper; however, be sure to write your final answer in the answer spaces provided in the Answer Book.
- Remember, only what you write in the answer space will be scored. For constructed response questions, you do not need to fill the entire answer space.

Are there any questions?

Pause for questions.

SAY

Please remember that, during the testing session, you may not talk to other students, and you may not share materials or use unauthorized materials. If you engage in any misconduct, your score will be invalidated.

Remember, read all directions and questions very carefully and choose the best answer for each question. If you are not sure about an answer, do the best you can, but don't spend too much time on any one question.

Answer all the questions until you come to the end of Session 1, where you will see a stop sign. If you finish early, you may check your answers in Session 1, but do not go on to Session 2. When you have finished, sit quietly until I announce the end of testing.

Are there any questions?

Pause for questions.

SAY

You have 75 minutes to complete Session 1. I will help you keep track of the time by recording the remaining testing time on the board. Now turn to page 4 in your Student Test Book. You may begin.

Give the students 75 minutes to complete this test session. Record the starting amount of time for the session on the board. When 30 minutes have passed, record the remaining testing time on the board. Continue to record at 30-minute intervals until the session is completed.

Session **1**

Session 1 Tab



Record the
starting time: _____

Add 75 minutes: + 75

Record the
stopping time: _____

While students are working, the Test Examiner and proctors should circulate to see that students are following directions, that they are attempting to answer each question, that they are marking their answers in their Answer Book, that they are not entering text (e.g., the text of test questions) into the calculator, and that they are not going on to Session 2. Be sure that the Session 1 tab in both the Student Test Book and Answer Book is visible. Do not offer any help on specific test questions.

At the stopping time, read the next direction.

SAY

Stop. Put down your pencil. This is the end of Session 1. Put your Answer Book in your Student Test Book and close your Student Test Book. We will have a 15-minute break now.

Allow students to take a 15-minute break.

SAY

Now you will complete Session 2. Open your Student Test Book and find the page labeled Session 2. Now open your Answer Book and find the page labeled Session 2.

SAY

Answer all the questions until you come to the end of Session 2, where you will see a stop sign. If you finish early, you may check your answers in Session 2, but do not go back to Session 1. When you have finished, sit quietly until I announce the end of testing.

You have 75 minutes to complete Session 2. I will help you keep track of the time by recording the remaining testing time on the board.

Are there any questions?

Pause for questions.

SAY

Now turn the page. You may begin.

Give the students 75 minutes to complete this test session. Record the starting amount of time for the session on the board. When 30 minutes have passed, record the remaining testing time on the board. Continue to record at 30-minute intervals until the session is completed.



Record the starting time:	_____
Add 75 minutes:	+ 75
Record the stopping time:	_____

While students are working, the Test Examiner and proctors should circulate to see that students are following the directions, that they are attempting to answer each question, that they are marking their answers in their Answer Book, that they are not entering text (e.g., the text of test questions) into the calculator, and

that they are not looking back at Session 1. Be sure that only the Session 2 tab in both the Student Test Book and Answer Book is visible. Do not offer any help on specific test questions.

At the stopping time, read the next direction.

SAY

Stop. This is the end of the test. Close your Answer Book and Student Test Book.

Pause while students close their Answer Book and Student Test Book.

*If there were no students using the TI-92 or TI-92 Plus graphing calculator during the test, you may skip the instructions below and go on to the last **SAY** on page 33. If there were students using these calculators, proceed with the instructions below.*

SAY

Those of you who used a TI-92 or TI-92 Plus graphing calculator during the test, please follow these instructions to reset the memory on your calculator.

First, to display the memory screen, press the key for memory. To do this, first press the "2nd" key and then the "6" key.

Check to be sure the memory screen below is displayed on all TI-92 or TI-92 Plus graphing calculators.

MEMORY			
F1 RESET			
Expr	22	Text	0
List	9	GDB	0
Matrix	0	Data	122
Function	244	Figure	0
Program	319	Macro	0
Picture	30970	History	198
String	0	System	61510
		Memory Free	37678
Enter=OK			

SAY

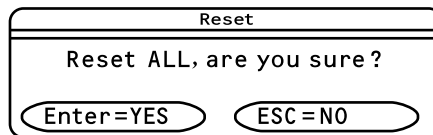
Now press the “F1” button and make sure that “All” is selected in the “Reset” box.

Check to be sure the picture below is displayed on all TI-92 or TI-92 Plus graphing calculators.

**SAY**

Press the “Enter” button.

Check to be sure the picture below is displayed on all TI-92 or TI-92 Plus graphing calculators. Then check each student’s calculator screen as you individually instruct each student to press the “Enter” button again. Make sure each screen is cleared.

**SAY**

You may now need to adjust the contrast on your display. To lighten the display, hold down the diamond (◇) button, then press the minus (–) button. To darken the display, hold down the diamond (◇) button, then press the plus (+) button.

It is the responsibility of each Test Examiner to confirm that, in every case, this procedure has been followed.

SAY

I will now collect your Student Test Book, Answer Book, graph paper, scratch paper, and the folded sheet with the Formula Reference Sheet on the front. You will need to sign a form indicating that you have returned all test materials.

If there are students who have a generic ID label on the front of their Answer Book, instruct them to hold on to their Answer Book so they can complete additional information on the front cover. After all other test materials have been collected, proceed to Step 8 for directions on completing the additional information.

As you collect the materials, have the students sign a materials return form. After all materials have been collected, make sure each student has signed a materials return form. Return all scratch paper, graph paper, and used Formula Reference Sheets/Rubric Sheets/Cues for Students to the STC for secure destruction.

Step 8 *Complete the Answer Book Information*

The following instructions are only for students who have generic ID labels on the front of their Answer Book.

SAY

You are now going to fill in some information on the front of your Answer Book. Look at the boxes in which you have printed the letters of your name. Each box has a column of circles below it. In the first column, fill in the circle that has the same letter as the first letter of your last name. Repeat the process for each of the other letters in your name. Mark only one circle in each column. For each empty space in the name section, fill in the blank circle in the top row.

Pause. Check to make sure that each student is filling in the circles correctly.

SAY

Darken the circle for female or male. Darken the circle for your racial/ethnic background. Darken the circle for your grade level.

Circulate to verify that students are correctly marking the circles. If a student indicates that none of the racial/ethnic background options are applicable to him/her, instruct the student to leave the racial/ethnic field blank.

Collect the Answer Books. As the Answer Books are being collected, make sure each student signs a materials return form.

Section
4

After Testing

Step 9 *Complete the Special Codes and Check Answer Books*

Before returning test materials to your STC, please check the Answer Books to verify that the pre-printed student ID label is correctly affixed to the Answer Book. If the Answer Book does not have a pre-printed student ID label, verify that a generic ID label is affixed and that the students' names and biographical information grids are filled in correctly. Be sure to complete the special codes for Grade Level, Special Ed, ESL Services, Section 504, Title 1, Free/Reduced-Price Lunch, Gender, Racial/Ethnic Background, School Number, Section Number, LEA, and Accommodations.

Numbers 2 through 9 in the chart should be completed on the front of the Answer Book **only** for those students with generic ID labels; for students with pre-printed student ID labels, this information should be left blank.

Completion of number 11 is optional for students with either generic or pre-printed labels. Please check with your STC to determine if number 11 should be completed.

When you check this . . . look for this:

1 Pre-printed Student ID Label	The information on the label is correct and the label is placed precisely in the space provided.
2 Student's Name	The student's first and last names must be written in the appropriate place. The corresponding circles must be filled in.
3 Gender	The circle indicating the student's gender must be filled in.

Table continued on next page.

.....
 Numbers 2 through 9 in the chart should be completed on the front of the Answer Book **only** for those students with generic ID labels; for students with pre-printed student ID labels, this information should be left blank.

4 Racial/Ethnic Background	It is not mandatory for a student to have filled in a circle indicating racial/ethnic background.
5 Grade Level	The circle indicating the student's grade level must be filled in.
6 Special Ed/ESL/Title 1/ Section 504/F/RP Lunch	Fill in the appropriate circles for students who receive special education, ESL, or Title 1 services, students who have a Section 504 plan, or students who receive a free or reduced-price lunch.
7 Accommodations	Fill in the appropriate circles to indicate the accommodations, if any, the student received when taking the test.
8 School Number	Write the school number in the appropriate boxes. Fill in the corresponding circles under each digit of the school number.
9 LEA	Write the LEA number in the appropriate boxes. Fill in the corresponding circles under each digit of the LEA number.
10 Section Number	Write the section number in the appropriate boxes. Fill in the corresponding circles under each digit of the section number.
11 Teacher ID	Write the teacher ID number in the appropriate boxes. Fill in the corresponding circles under each digit of the teacher ID number.

.....
 Completion of number 11 is optional for students with either generic or pre-printed labels. Please check with your STC to determine if number 11 should be completed.

There are some conditions that interfere with the scoring process.

Please check each Answer Book for the following:

- answer marks that are too light
- incomplete erasures
- stray marks

Erase marks or make them heavier, as needed.

.....
The Test Examiner should bring to the attention of the STC those students whose conduct during testing might have caused an invalid administration. The Test Examiner and the STC should follow local school system policy to determine whether each of those students' test scores should be invalidated. Instructions on how to invalidate a student's test book are given in the Test Administration and Coordination Manual.
.....

Step 10 *Complete the Testing Irregularities Record and Invalidate Affected Student Answer Books*

Make sure all of the individual and group irregularities have been recorded on the Testing Irregularities Record (see Appendix B). In the "Comments (Resolution/Impact)" column of the Testing Irregularities Record, note the names of those students whose test results might have been significantly affected. Place those students' Answer Books on the top of the Answer Book stack when returning the test materials to your STC. The Test Examiner should bring to the attention of the STC those students whose conduct during testing might have caused an invalid administration. The Test Examiner and the STC should follow local school system policy to determine whether each of those students' test scores should be invalidated. Instructions on how to invalidate a student's test book are given in the Test Administration and Coordination Manual.

Step 11 *Complete the Documentation Forms and Return Test Materials*

Follow the directions and schedule provided to you by your STC for packaging and returning all materials. Be sure to return the completed Testing Irregularities Record and the Materials Return Form to your STC. You may keep unused Formula Reference Sheets/Rubric Sheets/Cues for Students for use in your classroom.

Step 12 *Administrative Procedures for Students with IEPs Permitting a Dictated Response or Use of a Word Processor*

A student whose IEP permits a dictated response must have that response audiotaped in the presence of an approved Test Examiner for later transcription into the student's Answer Book. The student's response must be transcribed at the school level BY AN APPROVED Test Examiner into the student's Answer Book with a pre-printed or generic label attached. The student's school must retain any audiotape for one year for review by MSDE upon request.

A student whose IEP permits the use of a word processor must have that response transcribed by hand exactly as the student entered the response on the word processor. The student's response must always be transcribed at the school level BY AN APPROVED Test Examiner into the student's Answer Book with the pre-printed or generic label attached. After the student's response has been transcribed, the memory of the word processor must be cleared. Any computer printout of the student's response must be retained by the school for one year for review by MSDE upon request.

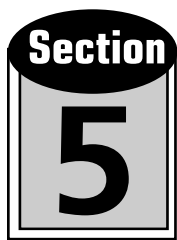
Step 13 *Optional Discussion Guide for Teachers Following the High School Assessment Administration*

Many teachers who administer the high school assessment have asked for feedback regarding the assessments. Test security requirements, of course, need to be in force before, during, and after test administration. However, it is legitimate to conduct a debriefing discussion with your students to explore instructional implications. The following are suggested guidelines for conducting an **optional** debriefing discussion. If you choose to conduct this discussion, it is suggested that it be held as soon as possible after the administration of the assessment. This information is solely for your instructional planning. It is not expected that responses be returned to the Maryland State Department of Education.

To ensure that test security is not violated, discourage sharing information regarding individual test items when you conduct the debriefing discussion with your students. Rather, focus on instructional implications for future classes. You should limit your discussion to the following questions:

1. What advice would you give to other students who are just beginning the course to help them be successful on the assessment?
2. What would you recommend receive **more** emphasis the next time this class is taught?

3. What would you recommend receive **less** emphasis the next time this class is taught?
4. Did you have enough classroom preparation to feel confident when composing the written responses on the assessment?
5. Did you have enough classroom preparation to feel confident in answering the selected response questions? For Mathematics only: Did you have enough classroom preparation to feel confident in answering the student produced response (SPR) questions?
6. What else could teachers and students do to prepare for this assessment?

The logo for Section 5 consists of a black oval at the top containing the word "Section" in white. Below the oval is a large, bold, black number "5" centered within a white square that has a black border.

Appendices

APPENDIX A

MATHEMATICS BRIEF CONSTRUCTED RESPONSE RUBRIC

- 3 The response indicates **application** of a reasonable strategy that leads to a correct solution in the context of the problem. The **representations** essentially are correct. The **explanation** and/or **justification** is logically sound, clearly presented, fully developed, supports the solution, and does not contain significant mathematical errors. The response demonstrates a complete understanding and **analysis** of the problem.
- 2 The response indicates **application** of a reasonable strategy that may be incomplete or undeveloped. It may or may not lead to a correct solution. The **representations** are fundamentally correct. The **explanation** and/or **justification** supports the solution and is plausible, although it may not be well developed or complete. The response demonstrates a conceptual understanding and **analysis** of the problem.
- 1 The response indicates little or no attempt to **apply** a reasonable strategy or applies an inappropriate strategy. It may or may not have the correct answer. The **representations** are incomplete or missing. The **explanation** and/or **justification** reveals serious flaws in reasoning. The **explanation** and/or **justification** may be incomplete or missing. The response demonstrates a minimal understanding and **analysis** of the problem.
- 0 The response is completely incorrect or irrelevant. There may be no response, or the response may state "I don't know."

MATHEMATICS EXTENDED CONSTRUCTED RESPONSE RUBRIC

- 4 The response indicates **application** of a reasonable strategy that leads to a correct solution in the context of the problem. The **representations** are correct. The **explanation** and/or **justification** is logically sound, clearly presented, fully developed, supports the solution, and does not contain significant mathematical errors. The response demonstrates a complete understanding and **analysis** of the problem.
- 3 The response indicates **application** of a reasonable strategy that may or may not lead to a correct solution. The **representations** are essentially correct. The **explanation** and/or **justification** is generally well developed, feasible, and supports the solution. The response demonstrates a clear understanding and **analysis** of the problem.
- 2 The response indicates **application** of a reasonable strategy that may be incomplete or undeveloped. It may or may not lead to a correct solution. The **representations** are fundamentally correct. The **explanation** and/or **justification** supports the solution and is plausible, although it may not be well developed or complete. The response demonstrates a conceptual understanding and **analysis** of the problem.
- 1 The response indicates little or no **application** of a reasonable strategy. It may or may not have the correct answer. The **representations** are incomplete or missing. The **explanation** and/or **justification** reveals serious flaws in reasoning. The **explanation** and/or **justification** may be incomplete or missing. The response demonstrates minimal understanding and **analysis** of the problem.
- 0 The response is completely incorrect or irrelevant. There may be no response, or the response may state "I don't know."

Explanation refers to the student using the language of mathematics to communicate how the student arrived at the solution.

Justification refers to the student using mathematical principles to support the reasoning used to solve the problem or to demonstrate that the solution is correct. This could include the appropriate definitions, postulates, and theorems.

Essentially correct representations may contain a few minor errors such as missing labels, reversed axes, or scales that are not uniform.

Fundamentally correct representations may contain several minor errors such as missing labels, reversed axes, or scales that are not uniform.

TESTING IRREGULARITIES RECORD

Person completing form: Name _____ (Check position below.)

- _____ Test Examiner (Irregularity affected single testing area, a small group within the testing area, or a single student.)
- _____ School Test Coordinator (More than one area was used for testing, and the irregularity affected all testing areas and possibly all students.)
- _____ LAC (Irregularity affected the entire district.)

NAME		NUMBER	
School			Subject _____
LEA			Test Date _____

THERE WERE NO TESTING IRREGULARITIES. (Place an X in box if no testing irregularities occurred. Test Examiners return the form to STC.)

GROUP IRREGULARITIES

TYPE OF IRREGULARITY	DURATION	POINT IN TESTING SEQUENCE	COMMENTS (RESOLUTION/ IMPACT)

INDIVIDUAL STUDENT IRREGULARITIES

ANSWER BOOK LITHO #	TYPE OF IRREGULARITY	POINT IN TESTING SEQUENCE	COMMENTS (RESOLUTION/ IMPACT)

Test Examiners return their forms to STC. STCs must return forms to CTB in envelope provided with testing materials and send a copy to LAC for retention. LACs must return the completed forms to CTB in envelope provided with testing materials. LACs should retain a copy of their forms and the copies sent to them by the STCs.

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20 Ryan Ranch Road
Monterey, California 93940-5703