The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Albany, New York 12234

INFORMATION BOOKLET FOR ADMINISTERING AND SCORING THE COMPONENT RETESTS IN MATHEMATICS A

General Information

The general procedures to be followed in administering component retests are provided in the publication *Directions for Administering and Scoring Component Retests* (DET 241). This document is available on the Department's web site http://www.emsc.nysed.gov/ciai/testing/component.html. Questions about general administration procedures for component retests should be directed to the Office of State Assessment at 518-474-8220 or 518-474-5099. For information about the rating of the Component Retests in Mathematics A, contact the Office of Curriculum and Instruction at 518-473-9471.

School administrators may photocopy this information booklet and distribute copies to school personnel who will be involved in the administration and scoring of the component retests.

Administering the Test

There are component retests for four mathematics key ideas from *The Learning Standards for Mathematics, Science, and Technology*: key idea 4, key idea 5, key idea 6, and key idea 7. Each component retest has two modules administered on two successive dates. Each module consists of 6 multiple-choice and 3 four-point open-ended questions. Students are to answer all questions; no choice is permitted. All work should be written in pen except for graphs and drawings, which should be done in pencil. Students are to be allowed a maximum of fifty minutes in which to complete each module.

Part I of each module consists of 6 multiple-choice questions, for which the student is to select the correct answer from among the four choices given. Answers to Part I questions are to be recorded on the detachable answer sheet, which is the last page of the test booklet. Each Part I question is worth two credits, for a maximum Part I raw score of 12 credits.

Part II of each module consists of 3 open-ended questions. Answers to Part II questions are to be recorded in the test booklet. Students must clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Each Part II question is worth four credits, for a maximum Part II raw score of 12 credits.

The maximum total raw score for each module is 24 credits. The maximum total raw score for each component retest is 48 credits.

Scrap paper is *not* permitted. Students may use the blank spaces in the test booklet and the page of graph paper at the end of the booklet as scrap paper. Schools should have a supply of graph paper available for students who request it in the event that they need to change their work on graphs.

A minimum of a scientific calculator, a straightedge (ruler), and a compass must be available for use by each student while taking the component retests. The memory of any calculator with programming capability must be cleared or reset when students enter the testing room. The use of operating manuals, instruction or formula cards, or other information concerning the operation of calculators is not permitted. Calculators that can be used to communicate with other calculators are not permitted. Graphing calculators without symbol manipulation are permitted, but not required, for the Mathematics A component retests.

DET 241MCR (0402-2,000)

Scoring the Component Retests

The Component Retest in Mathematics A is to be scored by committees of mathematics teachers. No one teacher is to score all the questions on a student's paper. The committee must consist of at least three teachers. Each of these teachers should be responsible for scoring a selected number of the open-ended questions. The more teachers serving on a committee, the fewer the questions each teacher scores. This process yields more consistent and reliable scores and allows scoring to proceed more quickly.

No later than three school days after the conclusion of the testing period, rating materials for all of the component retests will be posted on the Department's web site, http://www.emsc.nysed.gov/ciai/testing/component.html. The Department will not be sending paper copies of the rating materials to schools. Schools must print copies of these materials and make sufficient photocopies so as to provide a copy to each rater. The rating materials will include the answers to the Part I multiple-choice questions and rubrics for scoring each of the open-ended questions. Teachers should become thoroughly familiar with the rubrics for the questions they are scoring before beginning the scoring process.

Each component retest booklet has a detachable answer sheet on which the student enters his/her responses to the multiple-choice questions contained within that test booklet. The student's raw score for Part I should be entered in the box labeled "Score" on the front of the answer sheet. The back of each answer sheet includes a table for recording the credits earned for Part I, the credits earned for each of the three questions in Part II, and the "Total Raw Score" for Parts I and II of that module.

Determining the Student's Final Component Retest Score Range

Unlike the Regents examinations, final scores for the component retests will not be on a 0–100 scale. The student's final score will be designated as one of three possible scores:

Score range 65 and above

Achieving a component retest result of *score range 65 and above* is equivalent to earning a score of 65 or better on a Regents examination. Such a result satisfies the State testing requirement for a local or Regents diploma. Students who are required to take retests in two components in Mathematics A must achieve a component retest result of *score range 65 and above* on both components to achieve the equivalent of 65 or above on the Regents examination in Mathematics A.

Score range 55–64

Achieving a component retest result of *score range 55–64* is equivalent to earning a score between 55 and 64 on the corresponding Regents examination. In schools that have designated 55 as the passing score on a Regents examination in mathematics for the awarding of a local diploma, achieving a component retest result of *score range 55–64* satisfies the State testing requirement for the local diploma. Students who are required to take retests in two components of Mathematics A must achieve a component retest result of *score range 55–64* (or higher) on both components to earn the equivalent of a score between 55 and 64 on the Regents examination in Mathematics A.

Score range below 55

Achieving a component retest result of *score range below 55* is equivalent to earning a score below 55 on the corresponding Regents examination. Such a result does not satisfy the State testing requirement for a local or Regents diploma.

A table similar to the one at the right appears on the back of the Module 2 answer sheet. Enter in this table the student's scores for Modules 1 and 2. Add the student's scores for Modules 1 and 2 and record the total score.

To determine the student's final score range, use the conversion chart provided with the scoring materials for that component. Locate the student's final score down the left side of the chart. The score range to the right of the student's final score is the student's final score range. Enter an X or checkmark in the appropriate box to indicate the score range (*65 and above*, *55–64*, or *below 55*) on the answer sheet.

Module 1 Score	
Module 2 Score	
Component 4 Total Score	
Score Range for Component 4 (use conversion chart*)	☐ score range 65 and above ☐ score range 55–64 ☐ score range below 55

Because the score ranges corresponding to raw scores in the conversion chart may vary for each component and may change from one component retest administration to another, it is crucial that for each administration the conversion chart provided with the scoring materials for that component's administration be used to determine the student's final score range. Extreme care should be taken in recording the student's scores on each part of the test, adding these scores to determine the total score for each module and for the two modules combined, and using the conversion chart to obtain the final score range.

Rescoring Student Answer Papers

All student answer papers with a total score for a component retest two or fewer credits below the total score required to achieve *score range 65 and above* or *score range 55–64* must be scored a second time. For the second scoring, a different committee of teachers may score the student's paper or the original committee may score the paper, except that no teacher should score the same open-ended questions that he/she scored in the first rating of the paper. It is the responsibility of the school principal to assure that the student's final test score is based on a fair, accurate, and reliable scoring of the student's answer paper.

Specific Information for Scoring Component Retests in Mathematics A

Use the *Specific Information for Scoring the Regents Examination in Mathematics A* on the following pages as a guideline for scoring Component Retests in Mathematics A.

*The procedure for determining the student's score range is the same for Components 5, 6, and 7 except that the school must use the conversion charts provided with the scoring materials for those components.

Specific Information for Scoring the Regents Examination in Mathematics A

The information below refers to the scoring of open-ended questions on the Mathematics A examination and is intended as a supplement to the *Guide for Rating Regents Examinations in Mathematics.*

The open-ended questions (Parts II, III, and IV) on the Mathematics A examination should be scored in accordance with these guidelines:

If the student gives one legible response, even if it is crossed out, teachers should score the response.

If there are two or more responses with some crossed out, teachers should score only the response not crossed out.

If there are one or more partial responses and one complete response, teachers should score the complete response. No credit is deducted for incorrect startups.

If there are two or more complete responses, teachers should score each one. Credit will be allocated in the following way:

If one response is completely correct and the others are completely incorrect, teachers should award 50% credit and round down (2 credits for a 4-credit question, 1 credit for a 2-credit question, and 1 credit for a 3-credit question).

If each response warrants more than 50%, the lesser of the responses is awarded credit. (For example, if a 4-credit question is done two ways, one of which is worth 4 credits and the other worth 3 credits, the student should be awarded 3 credits for the question.)

If the question requires the student to include units of measure, full credit may not be awarded if the student omits the unit. Students may include the appropriate unit of measure even if it is not required.

Examples:

If the question asks for the number of feet in the length of a figure, no unit is required in the answer.

If the question asks for the dimensions of a figure, the proper unit of measure is required in the answer in order to receive full credit.

The rubric will specify how much credit is awarded if units are not used when required.

If a student gives only a correct numerical answer to a problem but does not show how he or she arrived at the answer, the student will be awarded only 1 credit. All constructed-response questions require the student to show work. If the question has only one part, this rule is straightforward, but this rule needs some clarification for multiple-part questions.

A fully correct answer for a multiple-part question requires correct responses for all parts of the question. For example, if a 3-credit question has three parts, the correct response to one or two parts of the question that required work to be shown is *not* considered a fully correct response with no work shown and would receive 0 credits.

The rubric of a multiple-part question will specify credit for various amounts of work shown.

Students should receive 0 credits if the solution is completely incorrect, irrelevant, or incoherent or if a correct response was arrived at using an obviously incorrect procedure.

This last statement is illustrated by a student who is asked to find one leg of a right triangle if the hypotenuse is 5 and the other leg is 3 and gives a correct response of 4 by showing that 4 is the average of 3 and 5.

The method of solution must be obviously incorrect to warrant a score of 0.

In some cases, the rubric will specifically state which responses should receive a score of 0.

Students who use trial and error to solve a problem must show their method. Merely showing that the answer checks or is correct is not considered a complete response for full credit. Most rubrics will address this issue directly. For more detail, teachers are encouraged to consult the *Guide for Rating Regents Examinations in Mathematics.*

Sample Question —Mathematics A

A 10-foot ladder is placed against the side of a building, as shown in figure 1 below. The bottom of the ladder is 8 feet from the base of the building. To increase the reach of the ladder against the building, the ladder is moved 4 feet closer to the base of the building, as shown in figure 2. To the *nearest foot*, how much farther up the building does the ladder now reach?

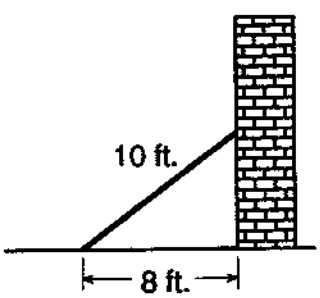


Figure 1

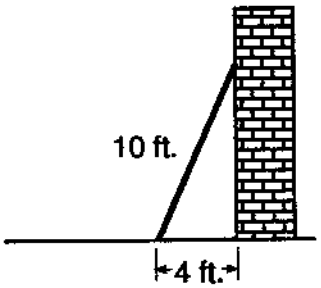


Figure 2

Rubric

[4] 3, and appropriate work is shown, such as showing the height in figure 1 as 6 and in figure 2 as 9.16 or 9, using the Pythagorean theorem or trigonometry.

[3] An appropriate method is used, but one computational error is made.

or

[3] An appropriate method is used, but the answer is not rounded correctly.

[2] Figure 1 is determined to be 6, and the Pythagorean theorem is used to attempt to find the height in figure 2, but a calculation or substitution error is made.

or

[2] The Pythagorean theorem or trigonometry is used to determine both heights, but a substitution error is made, but the heights for the formulas are calculated correctly and a correct difference is found.

[1] Only the height of figure 1 is determined correctly.

or

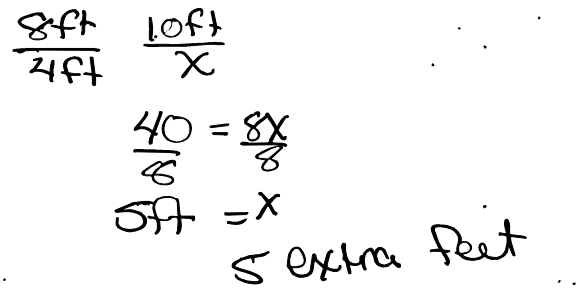
[1] The Pythagorean theorem or trigonometry is used, but a substitution error is made and an incorrect difference is found.

or

[1] 3, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

Student Response

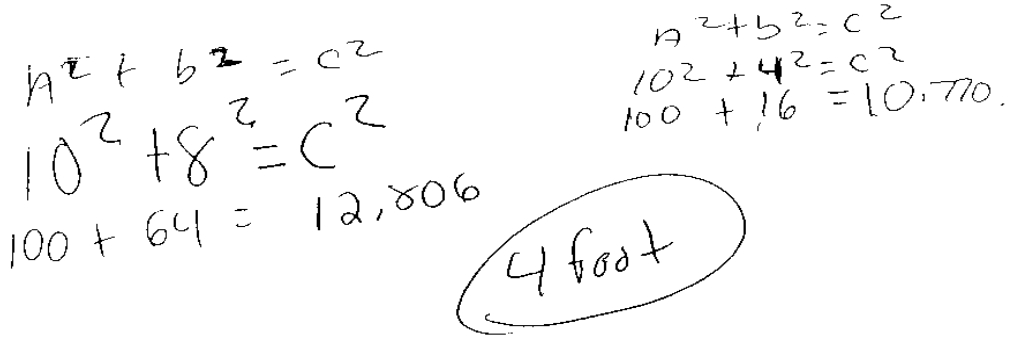


Comment

Score: 0

The student's use of a proportion is completely incorrect for this problem.

Student Response

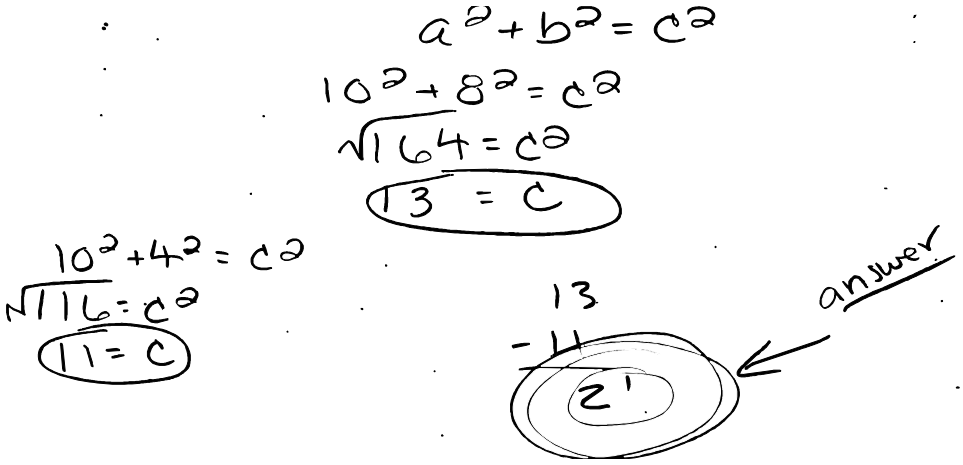


Comment

Score: 1

The student attempts to use the Pythagorean theorem but substitutes incorrectly. Then the student comes up with a difference of 4, which is not appropriate for the incorrect heights.

Student Response

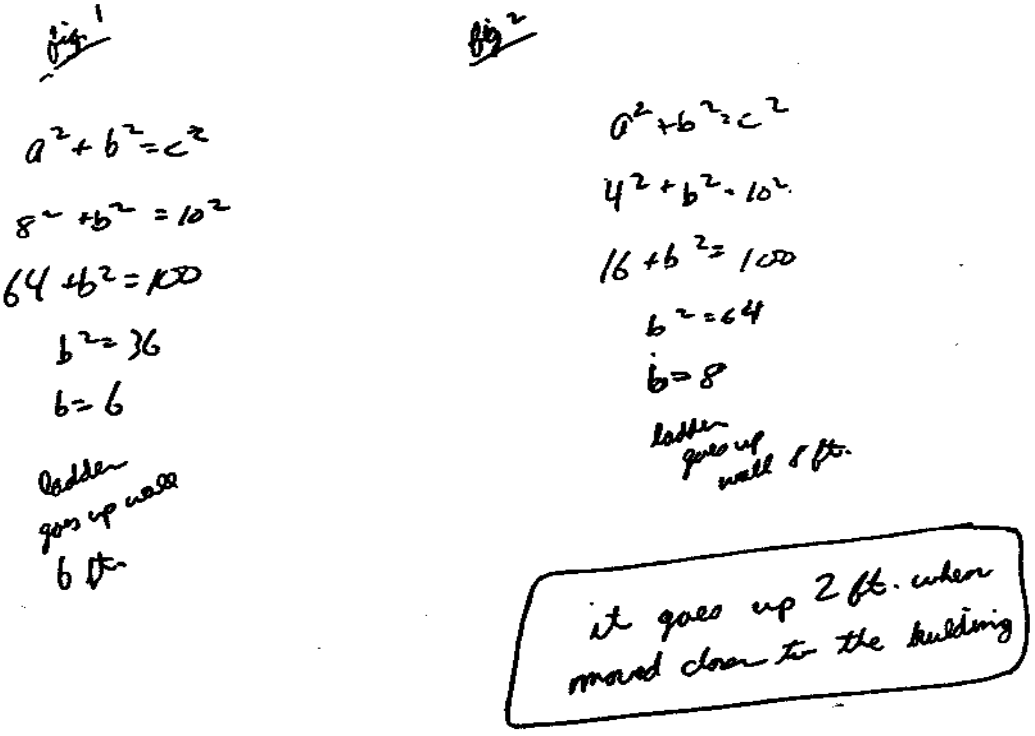


Comment

Score: 2

The student's response is similar to that for the paper receiving a score of 1, but this student does find an appropriate difference for the incorrect heights.

Student Response

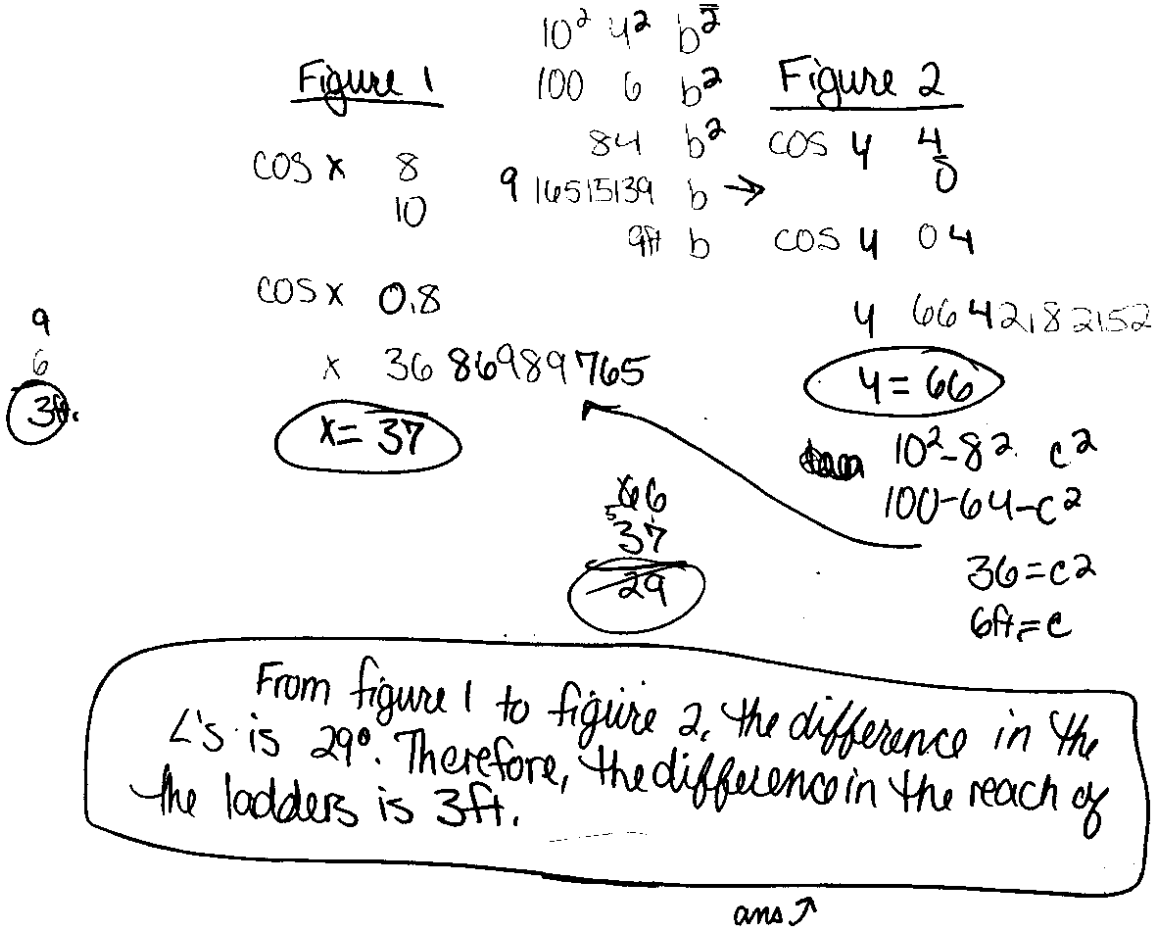


Comment

Score: 3

The student uses an appropriate method but makes one computational error on figure 2 (100 16 = 64). The student completes the work and finds an appropriate difference for the values given.

Student Response



Comment

Score: 4

Although not required for full credit, the student calculates the difference in the angles as well as the difference in height. The student clearly identifies the increase in the difference of the reach.