

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

GEOMETRY

Thursday, August 13, 2009 — 8:30 to 11:30 a.m., only

SCORING KEY AND RATING GUIDE

Mechanics of Rating

The following procedures are to be followed for scoring student answer papers for the Regents Examination in Geometry. More detailed information about scoring is provided in the publication *Information Booklet for Scoring the Regents Examination in Geometry*.

Use only *red* ink or *red* pencil in rating Regents papers. Do *not* attempt to correct the student's work by making insertions or changes of any kind. Use check marks to indicate student errors.

Unless otherwise specified, mathematically correct variations in the answers will be allowed. Units need not be given when the wording of the questions allows such omissions.

Each student's answer paper is to be scored by a minimum of three mathematics teachers. On the back of the student's detachable answer sheet, raters must enter their initials in the boxes next to the questions they have scored and also write their name in the box under the heading "Rater's/Scorer's Name."

Raters should record the student's scores for all questions and the total raw score on the student's detachable answer sheet. Then the student's total raw score should be converted to a scaled score by using the conversion chart that will be posted on the Department's web site <http://www.emsc.nysed.gov/osa/> on Thursday, August 13, 2009. The student's scaled score should be entered in the box provided on the student's detachable answer sheet. The scaled score is the student's final examination score.

GEOMETRY – *continued*

Part I

Allow a total of 56 credits, 2 credits for each of the following. Allow credit if the student has written the correct answer instead of the numeral 1, 2, 3, or 4.

(1) 4	(8) 1	(15) 4	(22) 4
(2) 3	(9) 3	(16) 2	(23) 2
(3) 4	(10) 2	(17) 4	(24) 3
(4) 2	(11) 1	(18) 1	(25) 4
(5) 4	(12) 4	(19) 1	(26) 1
(6) 2	(13) 3	(20) 3	(27) 2
(7) 1	(14) 4	(21) 2	(28) 3

GEOMETRY – *continued*

Part II

For each question, use the specific criteria to award a maximum of two credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(29) [2] 3, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or

[1] Appropriate work is shown, but one conceptual error is made.

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.

(30) [2] 2016, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or

[1] Appropriate work is shown, but one conceptual error is made.

or

[1] 2016, 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.

GEOMETRY – *continued*

(31) [2] $y + 5 = \frac{2}{3}(x - 6)$ or an equivalent linear equation, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or

[1] Appropriate work is shown, but one conceptual error is made.

or

[1] $y + 5 = \frac{2}{3}(x - 6)$ or an equivalent linear equation, 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.

(32) [2] A correct construction is drawn showing all appropriate arcs, and the angle bisector is drawn.

[1] All construction arcs are drawn, but the angle bisector line is not drawn.

or

[1] Appropriate work is shown, but one construction error is made, such as not extending the sides of the original angle to show points of intersection of the arc.

[0] A drawing that is not an appropriate construction is shown.

or

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

GEOMETRY – *continued*

(33) [2] 26, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or

[1] Appropriate work is shown, but one conceptual error is made.

or

[1] $x + 3x + 5x - 54 = 180$ or an equivalent equation, but no further correct work is shown.

or

[1] 26, 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.

(34) [2] \overline{AC} , and an appropriate justification is given, and appropriate work is shown, such as a correctly labeled diagram.

[1] Appropriate work is shown, but one computational error is made.

or

[1] Appropriate work is shown, but one conceptual error is made.

or

[1] All angle measures are identified correctly, but no further correct work is shown.

or

[1] \overline{AC} , but no work is shown, and no justification is given.

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

Part III

For each question, use the specific criteria to award a maximum of four credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(35) [4] $y + 2 = \frac{4}{3}(x - 3)$ or an equivalent linear equation, and appropriate work is shown.

[3] Appropriate work is shown, but one computational or graphing error is made.

or

[3] The correct slope and midpoint of the segment and the slope of the perpendicular bisector are found, but no equation or an incorrect equation is written.

[2] Appropriate work is shown, but two or more computational or graphing errors are made.

or

[2] Appropriate work is shown, but one conceptual error is made.

or

[2] Appropriate work is shown to find the correct slope and midpoint of the segment, but no further correct work is shown.

or

[2] Appropriate work is shown to find the slope of the original segment and the slope of the perpendicular bisector, but no further correct work is shown.

[1] Appropriate work is shown, but one conceptual error and one computational or graphing error are made.

or

[1] Appropriate work is shown to find the correct slope or midpoint of the segment, but no further correct work is shown.

or

[1] $y + 2 = \frac{4}{3}(x - 3)$ or an equivalent linear equation, 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.

GEOMETRY – *continued*

(36) [4] Both loci are drawn correctly, and the three points of intersection are labeled with an X.

[3] Both loci are drawn correctly, but only two points of intersection are labeled.

or

[3] Both loci are drawn, but one graphing error is made, but appropriate points of intersection are labeled.

[2] Both loci are drawn correctly, but the points of intersection are not labeled or are labeled incorrectly.

or

[2] Both loci are drawn, but two or more graphing errors are made, but appropriate points of intersection are labeled.

or

[2] Both loci are drawn, but one conceptual error is made, but appropriate points of intersection are labeled.

[1] One locus is drawn correctly, but no further correct work is shown.

or

[1] Xs are placed appropriately, but no loci are drawn.

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

GEOMETRY – *continued*

- (37) [4] $D'(-1,1)$, $E'(-1,5)$, $G'(-4,5)$, $\triangle DEG$ and $\triangle D'E'G'$ are graphed and labeled correctly, and an appropriate justification is given, such as showing congruent segments or stating that all rotations preserve distance.
- [3] Appropriate work is shown, but one computational, graphing, or labeling error is made.
- or*
- [3] Appropriate work is shown, but no justification is given.
- or*
- [3] Appropriate work is shown, but the coordinates are not stated or are stated incorrectly.
- [2] Appropriate work is shown, but one computational, graphing, or labeling error is made, and no justification is given.
- or*
- [2] Appropriate work is shown, but two or more computational, graphing, or labeling errors are made.
- or*
- [2] Appropriate work is shown, but one conceptual error is made.
- or*
- [2] Both triangles are graphed and labeled correctly, but no further correct work is shown.
- [1] Appropriate work is shown, but one conceptual error and one computational, graphing, or labeling error are made.
- or*
- [1] Both triangles are graphed correctly, but no further correct work is shown.
- or*
- [1] $D'(-1,1)$, $E'(-1,5)$, $G'(-4,5)$, 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.
-

Part IV

For each question, use the specific criteria to award a maximum of six credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(38) [6] A complete and correct proof that includes a concluding statement is written.

[5] A proof is written that demonstrates a thorough understanding of the method of proof and contains no conceptual errors, but one statement or reason is missing or is incorrect.

[4] A proof is written that demonstrates a good understanding of the method of proof and contains no conceptual errors, but two statements or reasons are missing or are incorrect.

[3] A proof is written that demonstrates a good understanding of the method of proof, but one conceptual error is made.

or

[3] $\triangle AFB \cong \triangle CED$ is proven, but no further correct work is shown.

[2] A proof is written that demonstrates a method of proof, but one conceptual error is made, and one statement or reason is missing or is incorrect.

or

[2] Some correct relevant statements about the proof are made, but three or four statements or reasons are missing or are incorrect.

[1] Only one correct relevant statement and reason are written.

[0] The “given” and/or the “prove” statements are rewritten in the style of a formal proof, but no further correct relevant statements are written.

or

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

GEOMETRY – *concluded*

Map to Core Curriculum

Content Band	Item Numbers
Geometric Relationships	14, 26, 27, 30
Constructions	2, 32
Locus	25, 36
Informal and Formal Proofs	1, 3, 4, 5, 7, 13, 16, 18, 20, 22, 23, 24, 28, 29, 33, 34, 38
Transformational Geometry	6, 8, 15, 37
Coordinate Geometry	9, 10, 11, 12, 17, 19, 21, 31, 35

Regents Examination in Geometry

August 2009

Chart for Converting Total Test Raw Scores to Final Examination Scores (Scaled Scores)

The *Chart for Determining the Final Examination Score for the August 2009 Regents Examination in Geometry* will be posted on the Department's web site <http://www.emsc.nysed.gov/osa/> on Thursday, August 13, 2009. Conversion charts provided for previous administrations of the Geometry examination must NOT be used to determine students' final scores for this administration.

Online Submission of Teacher Evaluations of the Test to the Department

Suggestions and feedback from teachers provide an important contribution to the test development process. The Department provides an online evaluation form for State assessments. It contains spaces for teachers to respond to several specific questions and to make suggestions. Instructions for completing the evaluation form are as follows:

1. Go to www.emsc.nysed.gov/osa/exameval.
2. Select the test title.
3. Complete the required demographic fields.
4. Complete each evaluation question and provide comments in the space provided.
5. Click the SUBMIT button at the bottom of the page to submit the completed form.