The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Friday, June 19, 2009 — 1:15 to 4:15 p.m., only

Student Name:_____

School Name:_____

Print your name and the name of your school on the lines above. Then turn to the last page of this booklet, which is the answer sheet for Part I. Fold the last page along the perforations and, slowly and carefully, tear off the answer sheet. Then fill in the heading of your answer sheet.

This examination has four parts, with a total of 39 questions. You must answer all questions in this examination. Write your answers to the Part I multiple-choice questions on the separate answer sheet. Write your answers to the questions in Parts II, III, and IV directly in this booklet. All work should be written in pen, except graphs and drawings, which should be done in pencil. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc.

The formulas that you may need to answer some questions in this examination are found at the end of the examination. This sheet is perforated so you may remove it from this booklet.

Scrap paper is not permitted for any part of this examination, but you may use the blank spaces in this booklet as scrap paper. A perforated sheet of scrap graph paper is provided at the end of this booklet for any question for which graphing may be helpful but is not required. You may remove this sheet from this booklet. Any work done on this sheet of scrap graph paper will not be scored.

When you have completed the examination, you must sign the statement printed at the end of the answer sheet, indicating that you had no unlawful knowledge of the questions or answers prior to the examination and that you have neither given nor received assistance in answering any of the questions during the examination. Your answer sheet cannot be accepted if you fail to sign this declaration.

Notice…

A graphing calculator and a straightedge (ruler) must be available for you to use while taking this examination.

The use of any communications device is strictly prohibited when taking this examination. If you use any communications device, no matter how briefly, your examination will be invalidated and no score will be calculated for you.

DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.

Part I

Answer all 30 questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. For each question, write on the separate answer sheet the numeral preceding the word or expression that best completes the statement or answers the question. [60]

Use this space for computations.

1 It takes Tammy 45 minutes to ride her bike 5 miles. At this rate, how long will it take her to ride 8 miles?

(1) 0.89 hour
(2) 1.125 hours
(3) 48 minutes
(4) 72 minutes

2 What are the roots of the equation $x^2 - 7x + 6 = 0$?

(1) 1 and 7
(2) –1 and 7
(3) –1 and –6
(4) 1 and 6

3 Which expression represents $\frac{27x^{18}y^5}{9x^6y}$ in simplest form?

(1) $3x^{12}y^4$
(2) $3x^3y^5$
(3) $18x^{12}y^4$
(4) $18x^3y^5$

4 Marie currently has a collection of 58 stamps. If she buys s stamps each week for w weeks, which expression represents the total number of stamps she will have?

(1) $58sw$
(2) $58 + sw$
(3) $58s + w$
(4) $58 + s + w$

Use this space for computations.

5 Which data set describes a situation that could be classified as qualitative?

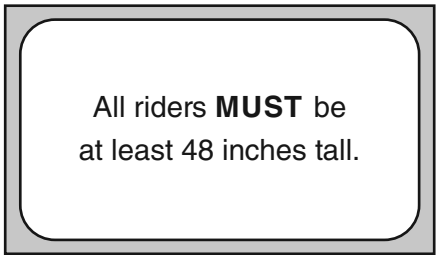
(1) the ages of the students in Ms. Marshall's Spanish class

(2) the test scores of the students in Ms. Fitzgerald's class

(3) the favorite ice cream flavor of each of Mr. Hayden's students

(4) the heights of the players on the East High School basketball team

6 The sign shown below is posted in front of a roller coaster ride at the Wadsworth County Fairgrounds.



If h represents the height of a rider in inches, what is a correct translation of the statement on this sign?

(1) $h < 48$

(2) $h > 48$

(3) $h \leq 48$

(4) $h \geq 48$

7 Which value of x is the solution of the equation $\frac{2x}{3} + \frac{x}{6} = 5$?

(1) 6

(2) 10

(3) 15

(4) 30

Use this space for computations.

8 Students in Ms. Nazzeer's mathematics class tossed a six-sided number cube whose faces are numbered 1 to 6. The results are recorded in the table below.

Result	Frequency
1	3
2	6
3	4
4	6
5	4
6	7

Based on these data, what is the empirical probability of tossing a 4?

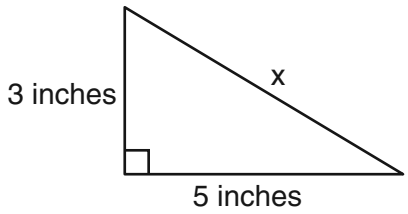
(1) $\frac{8}{30}$

(2) $\frac{6}{30}$

(3) $\frac{5}{30}$

(4) $\frac{1}{30}$

9 What is the value of x, in inches, in the right triangle below?



(1) $\sqrt{15}$

(2) 8

(3) $\sqrt{34}$

(4) 4

Use this space for computations.

10 What is $\sqrt{32}$ expressed in simplest radical form?

(1) $16\sqrt{2}$
(2) $4\sqrt{2}$
(3) $4\sqrt{8}$
(4) $2\sqrt{8}$

11 If the speed of sound is 344 meters per second, what is the approximate speed of sound, in meters per hour?

60 seconds = 1 minute
60 minutes = 1 hour

(1) 20,640
(2) 41,280
(3) 123,840
(4) 1,238,400

12 The sum of two numbers is 47, and their difference is 15. What is the larger number?

(1) 16
(2) 31
(3) 32
(4) 36

13 If $a + ar = b + r$, the value of a in terms of b and r can be expressed as

(1) $\frac{b}{r} + 1$
(2) $\frac{1 + b}{r}$
(3) $\frac{b + r}{1 + r}$
(4) $\frac{1 + b}{r + b}$

Use this space for computations.

14 Which value of x is in the solution set of $\frac{4}{3}x + 5 < 17$?

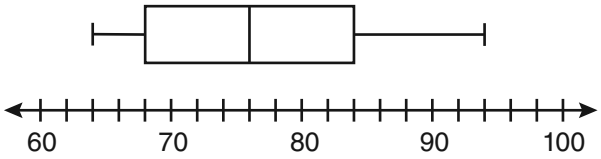
(1) 8

(2) 9

(3) 12

(4) 16

15 The box-and-whisker plot below represents students' scores on a recent English test.



Student Scores

What is the value of the upper quartile?

(1) 68

(2) 76

(3) 84

(4) 94

16 Which value of n makes the expression $\frac{5n}{2n - 1}$ undefined?

(1) 1

(2) 0

(3) $-\frac{1}{2}$

(4) $\frac{1}{2}$

17 At Genesee High School, the sophomore class has 60 more students than the freshman class. The junior class has 50 fewer students than twice the students in the freshman class. The senior class is three times as large as the freshman class. If there are a total of 1,424 students at Genesee High School, how many students are in the freshman class?

(1) 202

(2) 205

(3) 235

(4) 236

Use this space for computations.

18 What are the vertex and axis of symmetry of the parabola $y = x^2 - 16x + 63$?

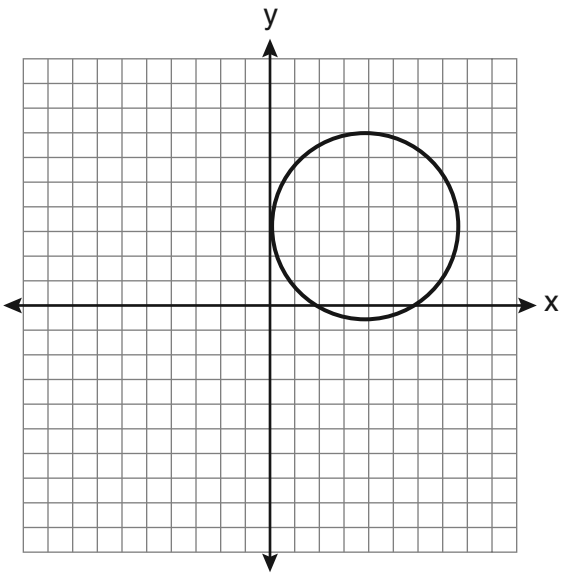
(1) vertex: (8,–1); axis of symmetry: $x = 8$

(2) vertex: (8,1); axis of symmetry: $x = 8$

(3) vertex: (–8,–1); axis of symmetry: $x = -8$

(4) vertex: (–8,1); axis of symmetry: $x = -8$

19 Which statement is true about the relation shown on the graph below?



(1) It is a function because there exists one x-coordinate for each y-coordinate.

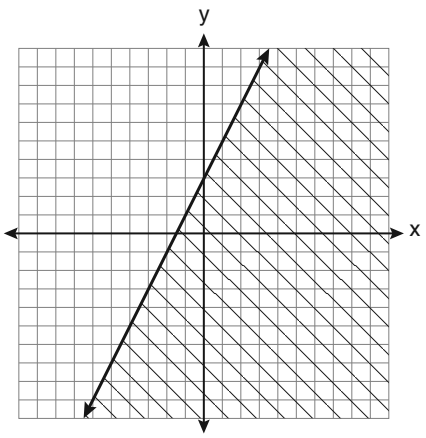
(2) It is a function because there exists one y-coordinate for each x-coordinate.

(3) It is *not* a function because there are multiple y-values for a given x-value.

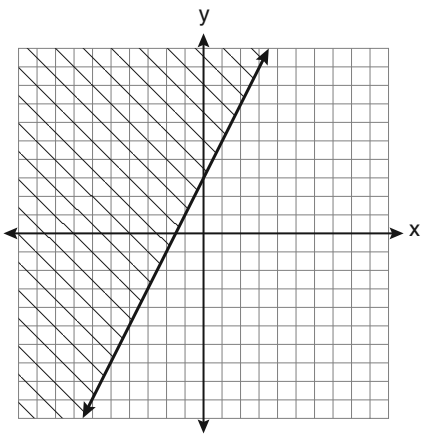
(4) It is *not* a function because there are multiple x-values for a given y-value.

Use this space for computations.

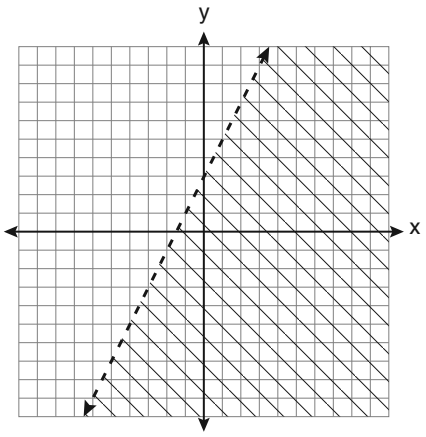
20 Which graph represents the solution of $3y - 9 \leq 6x$?



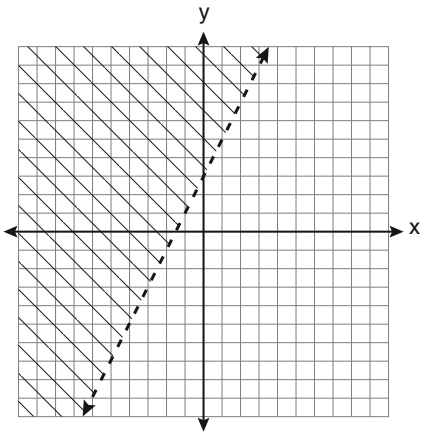
(1)



(3)



(2)



(4)

21 Which expression represents $\frac{x^2 - 2x - 15}{x^2 + 3x}$ in simplest form?

(1) -5

(2) $\frac{x - 5}{x}$

(3) $\frac{-2x - 5}{x}$

(4) $\frac{-2x - 15}{3x}$

22 What is an equation of the line that passes through the point (4,–6) and has a slope of –3?

(1) $y = -3x + 6$

(2) $y = -3x - 6$

(3) $y = -3x + 10$

(4) $y = -3x + 14$

Use this space for computations.

23 When $4x^2 + 7x - 5$ is subtracted from $9x^2 - 2x + 3$, the result is

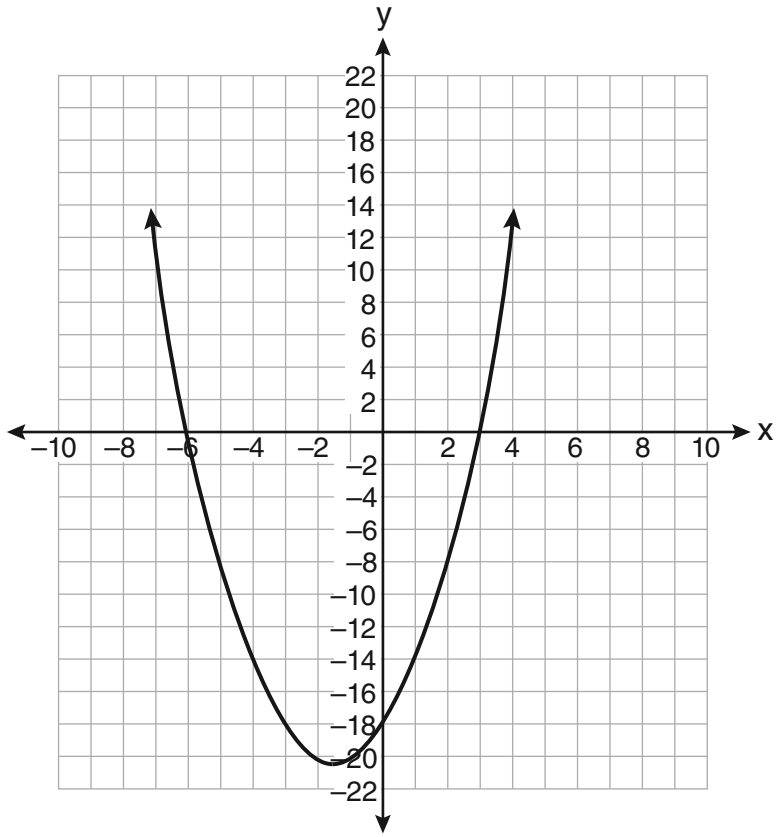
(1) $5x^2 + 5x - 2$

(2) $5x^2 - 9x + 8$

(3) $-5x^2 + 5x - 2$

(4) $-5x^2 + 9x - 8$

24 The equation $y = x^2 + 3x - 18$ is graphed on the set of axes below.



Based on this graph, what are the roots of the equation $x^2 + 3x - 18 = 0$?

(1) –3 and 6

(2) 0 and –18

(3) 3 and –6

(4) 3 and –18

25 What is the value of the y-coordinate of the solution to the system of equations $x + 2y = 9$ and $x - y = 3$?

(1) 6

(2) 2

(3) 3

(4) 5

Use this space for computations.

26 What is the additive inverse of the expression $a - b$?

(1) $a + b$
(2) $a - b$
(3) $-a + b$
(4) $-a - b$

27 What is the product of 12 and 4.2×10^6 expressed in scientific notation?

(1) 50.4×10^6
(2) 50.4×10^7
(3) 5.04×10^6
(4) 5.04×10^7

28 To calculate the volume of a small wooden cube, Ezra measured an edge of the cube as 2 cm. The actual length of the edge of Ezra's cube is 2.1 cm. What is the relative error in his volume calculation to the *nearest hundredth*?

(1) 0.13
(2) 0.14
(3) 0.15
(4) 0.16

29 What is $\frac{6}{4a} - \frac{2}{3a}$ expressed in simplest form?

(1) $\frac{4}{a}$
(2) $\frac{5}{6a}$
(3) $\frac{8}{7a}$
(4) $\frac{10}{12a}$

30 The set {11,12} is equivalent to

(1) $\{x|11 < x < 12$, where x is an integer$\}$
(2) $\{x|11 < x \leq 12$, where x is an integer$\}$
(3) $\{x|10 \leq x < 12$, where x is an integer$\}$
(4) $\{x|10 < x \leq 12$, where x is an integer$\}$

Part II

Answer all 3 questions in this part. Each correct answer will receive 2 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. [6]

31 Determine how many three-letter arrangements are possible with the letters *A*, *N*, *G*, *L*, and *E* if no letter may be repeated.

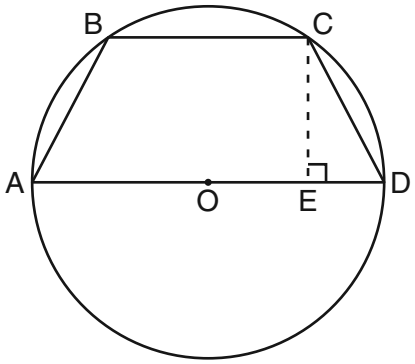
32 Factor completely: $4x^3 - 36x$

33 Some books are laid on a desk. Two are English, three are mathematics, one is French, and four are social studies. Theresa selects an English book and Isabelle then selects a social studies book. Both girls take their selections to the library to read. If Truman then selects a book at random, what is the probability that he selects an English book?

Part III

Answer all 3 questions in this part. Each correct answer will receive 3 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. [9]

34 In the diagram below, the circumference of circle O is 16π inches. The length of $\overline{BC}$ is three-quarters of the length of diameter $\overline{AD}$ and $CE = 4$ inches. Calculate the area, in square inches, of trapezoid $ABCD$.



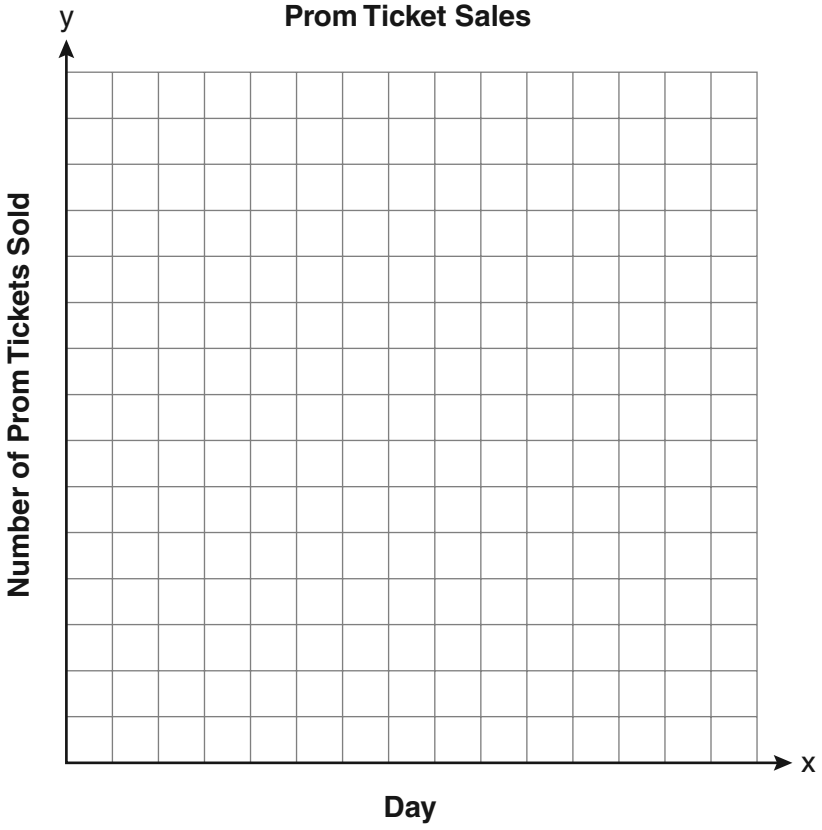
35 A bank is advertising that new customers can open a savings account with a $3\frac{3}{4}\%$ interest rate compounded annually. Robert invests \$5,000 in an account at this rate. If he makes no additional deposits or withdrawals on his account, find the amount of money he will have, to the *nearest cent*, after three years.

36 The table below shows the number of prom tickets sold over a ten-day period.

Prom Ticket Sales

Day (x)	1	2	5	7	10
Number of Prom Tickets Sold (y)	30	35	55	60	70

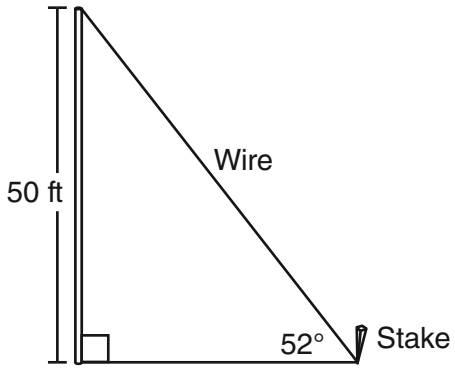
Plot these data points on the coordinate grid below. Use a consistent and appropriate scale. Draw a reasonable line of best fit and write its equation.



Part IV

Answer all 3 questions in this part. Each correct answer will receive 4 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. [12]

37 A stake is to be driven into the ground away from the base of a 50-foot pole, as shown in the diagram below. A wire from the stake on the ground to the top of the pole is to be installed at an angle of elevation of 52°.



How far away from the base of the pole should the stake be driven in, to the *nearest foot*?

What will be the length of the wire from the stake to the top of the pole, to the *nearest foot*?

38 The Fahrenheit temperature readings on 30 April mornings in Stormville, New York, are shown below.

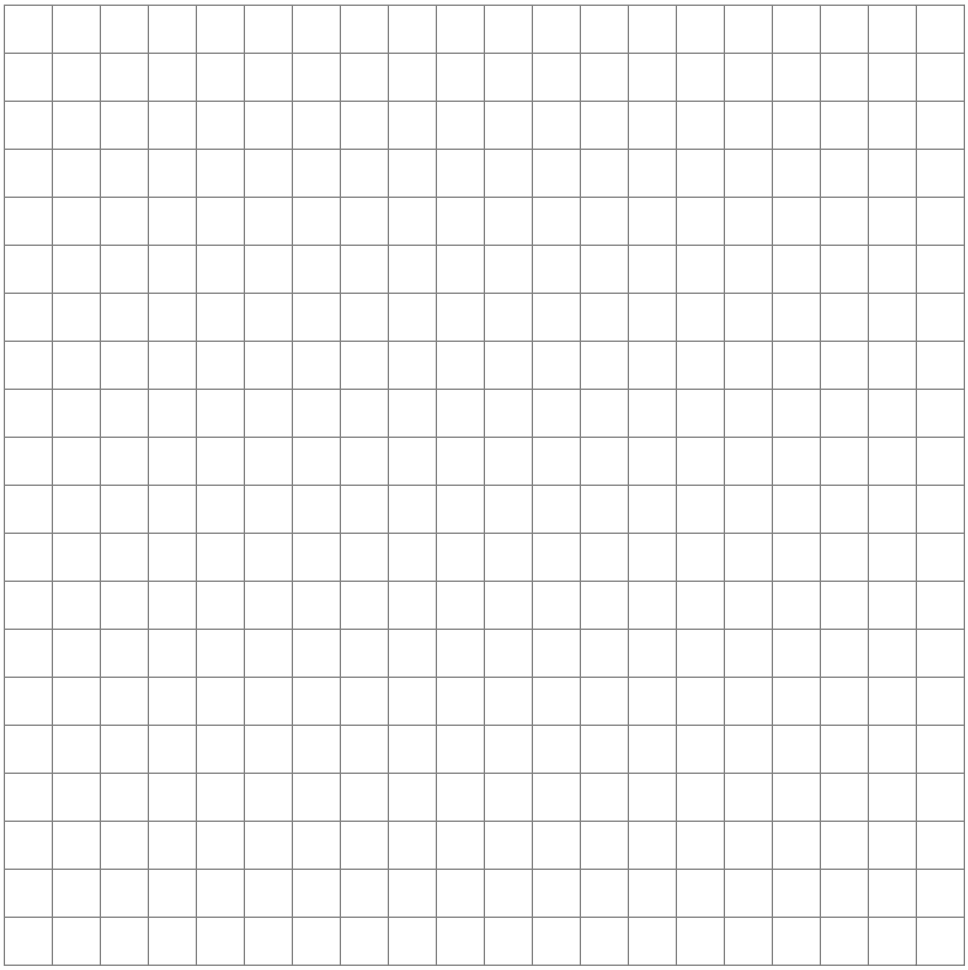
41°, 58°, 61°, 54°, 49°, 46°, 52°, 58°, 67°, 43°, 47°, 60°, 52°, 58°, 48°,
44°, 59°, 66°, 62°, 55°, 44°, 49°, 62°, 61°, 59°, 54°, 57°, 58°, 63°, 60°

Using the data, complete the frequency table below.

Interval	Tally	Frequency
40–44		
45–49		
50–54		
55–59		
60–64		
65–69		

On the grid on the next page, construct and label a frequency histogram based on the table.

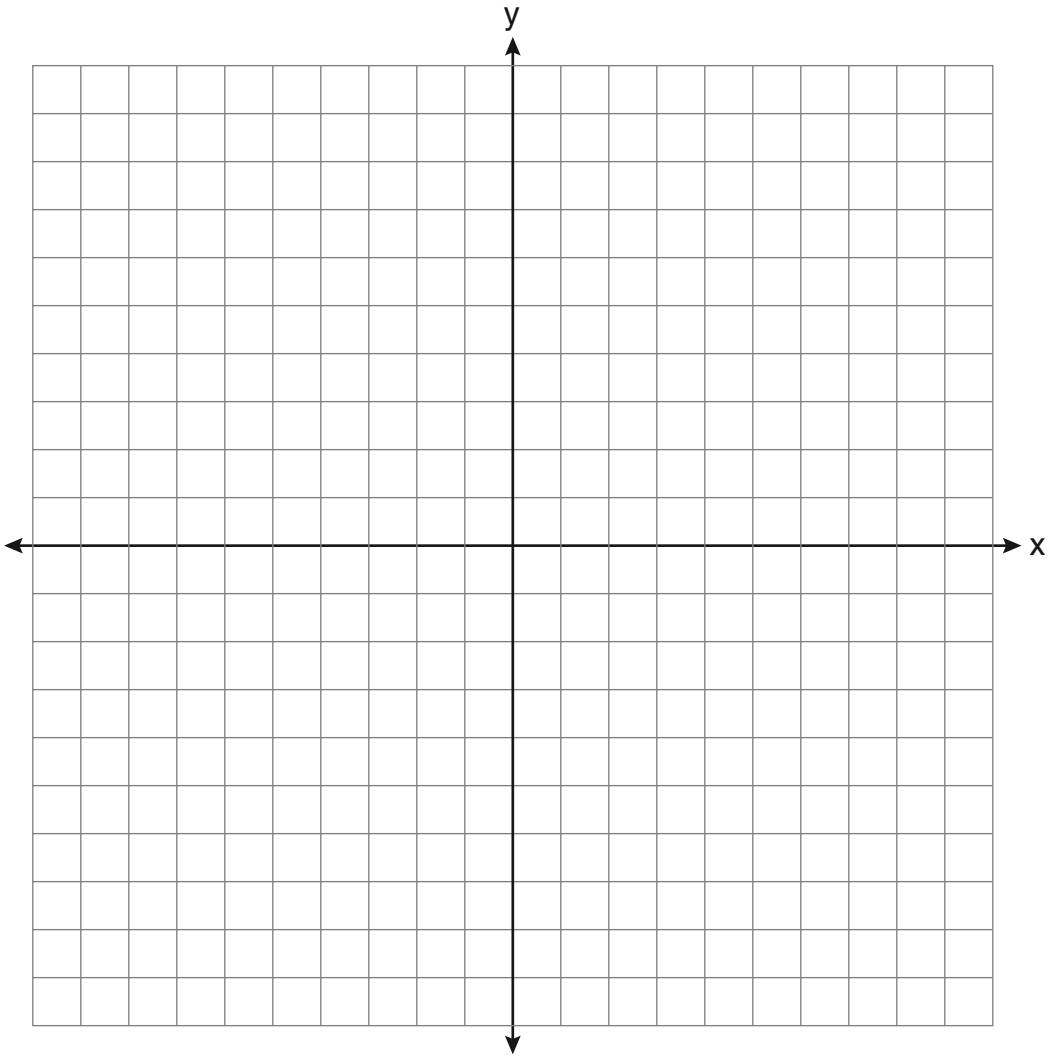
Question 38 continued



39 On the set of axes below, solve the following system of equations graphically for all values of x and y.

$$y = x^2 - 6x + 1$$

$$y + 2x = 6$$



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Reference Sheet

Trigonometric Ratios	$\sin A = \frac{opposite}{hypotenuse}$ $\cos A = \frac{adjacent}{hypotenuse}$ $\tan A = \frac{opposite}{adjacent}$
Area	trapezoid $A = \frac{1}{2}h(b_1 + b_2)$
Volume	cylinder $V = \pi r^2 h$
Surface Area	rectangular prism $SA = 2lw + 2hw + 2lh$ cylinder $SA = 2\pi r^2 + 2\pi rh$
Coordinate Geometry	$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$

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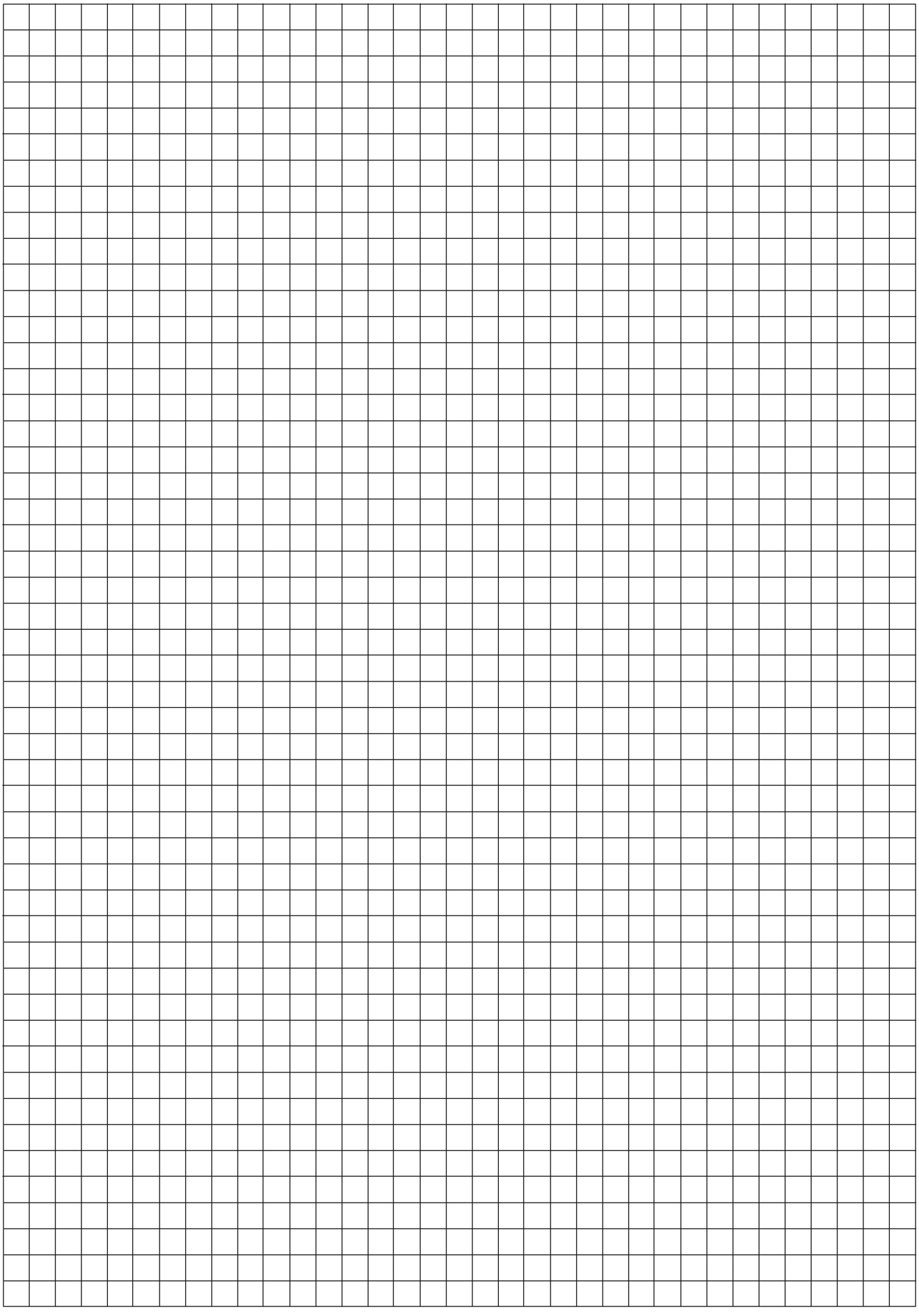
Scrap Graph Paper — This sheet will *not* be scored.



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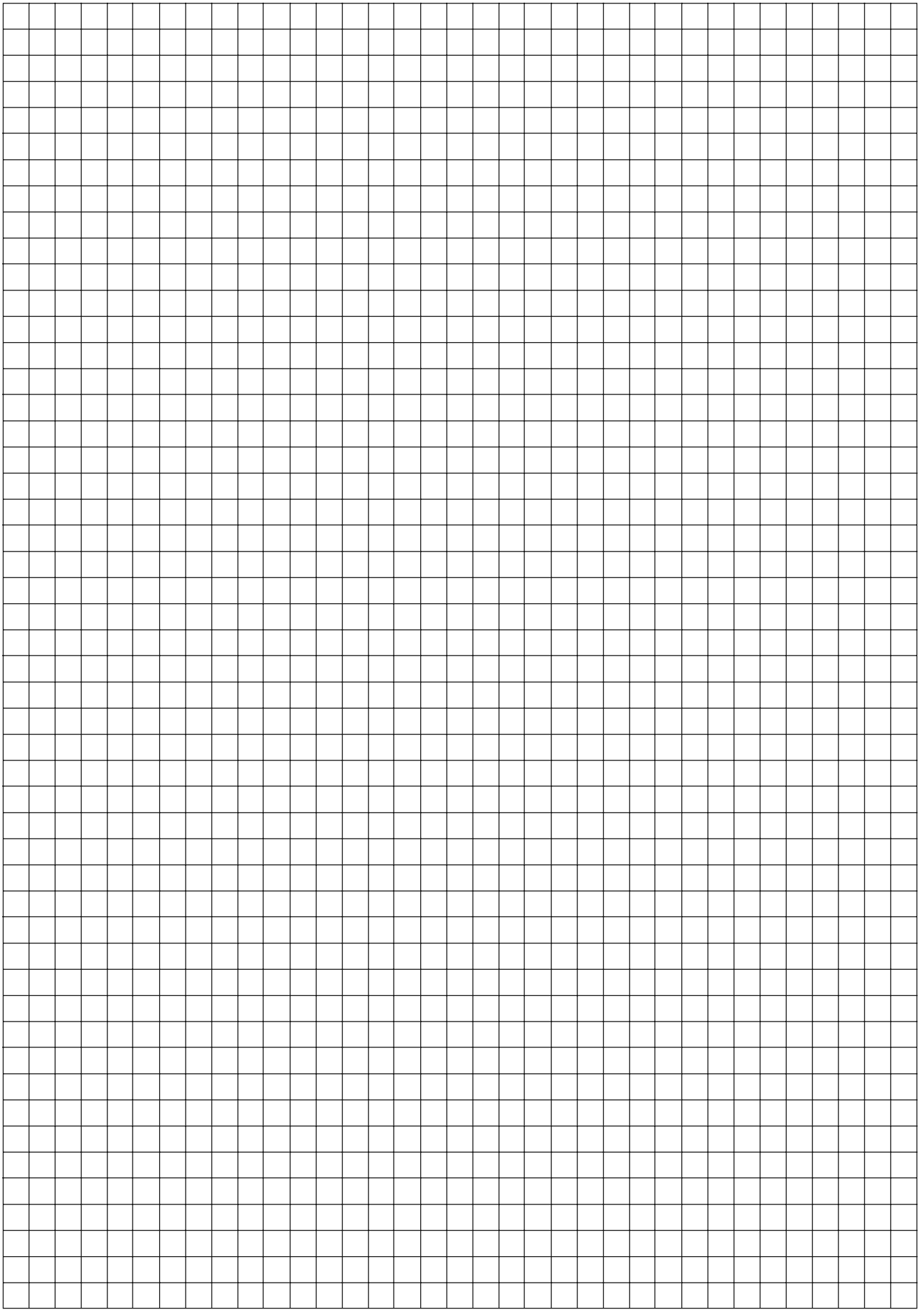

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The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Friday, June 19, 2009 — 1:15 to 4:15 p.m., only

ANSWER SHEET

Student ..... Sex: ☐ Male ☐ Female Grade .....

Teacher ..... School .....

Your answers to Part I should be recorded on this answer sheet.

Part I

Answer all 30 questions in this part.

1	9	17	25 .....
2	10	18	26 .....
3	11	19	27 .....
4	12	20	28 .....
5	13	21	29 .....
6	14	22	30 .....
7	15	23	
8	16	24	

Your answers for Parts II, III, and IV should be written in the test booklet.

The declaration below should be signed when you have completed the examination.

I do hereby affirm, at the close of this examination, that I had no unlawful knowledge of the questions or answers prior to the examination and that I have neither given nor received assistance in answering any of the questions during the examination.

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Signature

INTEGRATED ALGEBRA			
Question	**Maximum Credit**	**Credits Earned**	**Rater's/Scorer's Initials**
Part I 1–30	**60**		
Part II 31	**2**		
32	**2**		
33	**2**		
Part III 34	**3**		
35	**3**		
36	**3**		
Part IV 37	**4**		
38	**4**		
39	**4**		
Maximum Total	**87**		

Total Raw Score

Checked by

Scaled Score
(from conversion chart)

Rater's/Scorer's Name (minimum of three)

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INTEGRATED ALGEBRA

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Friday, June 19, 2009 – 1:15 to 4:15 p.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 Integrated Algebra. More detailed information about scoring is provided in the publication *Information Booklet for Scoring the Regents Examination in Integrated Algebra*.

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 Friday, June 19, 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.

Part I

Allow a total of 60 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	(9) 3	(17) 1	(25) 2
(2) 4	(10) 2	(18) 1	(26) 3
(3) 1	(11) 4	(19) 3	(27) 4
(4) 2	(12) 2	(20) 1	(28) 2
(5) 3	(13) 3	(21) 2	(29) 2
(6) 4	(14) 1	(22) 1	(30) 4
(7) 1	(15) 3	(23) 2	
(8) 2	(16) 4	(24) 3	

Updated information regarding the rating of this examination may be posted on the New York State Education Department's web site during the rating period. Check this web site http://www.emsc.nysed.gov/osa/ and select the link "Examination Scoring Information" for any recently posted information regarding this examination. This site should be checked before the rating process for this examination begins and several times throughout the Regents examination period.

General Rules for Applying Mathematics Rubrics

I. General Principles for Rating

The rubrics for the constructed-response questions on the Regents Examination in Integrated Algebra are designed to provide a systematic, consistent method for awarding credit. The rubrics are not to be considered all-inclusive; it is impossible to anticipate all the different methods that students might use to solve a given problem. Each response must be rated carefully using the teacher's professional judgment and knowledge of mathematics; all calculations must be checked. The specific rubrics for each question must be applied consistently to all responses. In cases that are not specifically addressed in the rubrics, raters must follow the general rating guidelines in the publication *Information Booklet for Scoring the Regents Examination in Integrated Algebra*, use their own professional judgment, confer with other mathematics teachers, and/or contact the consultants at the State Education Department for guidance. During each Regents examination administration period, rating questions may be referred directly to the Education Department. The contact numbers are sent to all schools before each administration period.

II. Full-Credit Responses

A full-credit response provides a complete and correct answer to all parts of the question. Sufficient work is shown to enable the rater to determine how the student arrived at the correct answer.

When the rubric for the full-credit response includes one or more examples of an acceptable method for solving the question (usually introduced by the phrase "such as"), it does ***not*** mean that there are no additional acceptable methods of arriving at the correct answer. Unless otherwise specified, mathematically correct alternative solutions should be awarded credit. The only exceptions are those questions that specify the type of solution that must be used; e.g., an algebraic solution or a graphic solution. A correct solution using a method other than the one specified is awarded half the credit of a correct solution using the specified method.

III. Appropriate Work

Full-Credit Responses: The directions in the examination booklet for all the constructed-response questions state: "Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, charts, etc." The student has the responsibility of providing the correct answer ***and*** showing how that answer was obtained. The student must "construct" the response; the teacher should not have to search through a group of seemingly random calculations scribbled on the student paper to ascertain what method the student may have used.

Responses With Errors: Rubrics that state "Appropriate work is shown, but …" are intended to be used with solutions that show an essentially complete response to the question but contain certain types of errors, whether computational, rounding, graphing, or conceptual. If the response is incomplete; i.e., an equation is written but not solved or an equation is solved but not all of the parts of the question are answered, appropriate work has ***not*** been shown. Other rubrics address incomplete responses.

IV. Multiple Errors

Computational Errors, Graphing Errors, and Rounding Errors: Each of these types of errors results in a 1-credit deduction. Any combination of two of these types of errors results in a 2-credit deduction. No more than 2 credits should be deducted for such mechanical errors in any response. The teacher must carefully review the student's work to determine what errors were made and what type of errors they were.

Conceptual Errors: A conceptual error involves a more serious lack of knowledge or procedure. Examples of conceptual errors include using the incorrect formula for the area of a figure, choosing the incorrect trigonometric function, or multiplying the exponents instead of adding them when multiplying terms with exponents. A response with one conceptual error can receive no more than half credit.

If a response shows repeated occurrences of the same conceptual error, the student should not be penalized twice. If the same conceptual error is repeated in responses to other questions, credit should be deducted in each response.

If a response shows two (or more) different major conceptual errors, it should be considered completely incorrect and receive no credit.

If a response shows one conceptual error and one computational, graphing, or rounding error, the teacher must award credit that takes into account both errors; i.e., awarding half credit for the conceptual error and deducting 1 credit for each mechanical error (maximum of two deductions for mechanical errors).

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.

(31) **[2]** 60, and appropriate work is shown, such as ${}_5P_3$ or $5 \times 4 \times 3$.

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as determining the value of ${}_5C_3$.

or

[1] 60, 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]** $4x(x - 3)(x + 3)$, and appropriate work is shown.

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as leaving the answer as $4x(x^2 - 9)$.

or

[1] $4x(x - 3)(x + 3)$, 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.

(33) **[2]** $\frac{1}{8}$ or an equivalent answer, 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] $\frac{1}{8}$ or an equivalent answer, 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 III

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

(34) **[3]** 56, and appropriate work is shown.

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

or

[2] Appropriate work is shown to find $A = \frac{1}{2}(4)(12 + 16)$ or an equivalent equation, but no further correct work is shown.

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

or

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

or

[1] Appropriate work is shown to find $AD = 16$ and $BC = 12$, but no further correct work is shown.

or

[1] 56, 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.

(35) **[3]** 5,583.86, and appropriate work is shown.

[2] Appropriate work is shown, but one computational or rounding error is made.

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

or

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

or

[1] $A = 5000(1 + 0.0375)^3$ or an equivalent equation, but no further correct work is shown.

or

[1] 5,583.86, 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.

(36) **[3]** The data are plotted correctly, an appropriate line of best fit is drawn, and its equation is stated.

[2] The data are plotted incorrectly, but an appropriate line of best fit is drawn, and an appropriate equation is stated.

or

[2] The data are plotted correctly, but an incorrect line of best fit is drawn, but an appropriate equation is stated.

or

[2] The data are plotted correctly, and an appropriate line of best fit is drawn, but its equation is not stated or is stated incorrectly.

[1] The data are plotted correctly, but no further correct work is shown.

or

[1] The data are plotted incorrectly, but an appropriate line of best fit is drawn, but no further correct 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 four credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(37) **[4]** 39 and 63, and appropriate work is shown, such as using trigonometry or the Pythagorean theorem.

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

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

or

[2] Appropriate work is shown, but one conceptual error is made, such as using an incorrect trigonometric function.

or

[2] Tan 52 = $\frac{50}{x}$ and sin 52 = $\frac{50}{y}$ or an equivalent equation, but no further correct work is shown.

or

[2] 39 or 63, and appropriate work is shown.

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

or

[1] Tan 52 = $\frac{50}{x}$ or sin 52 = $\frac{50}{y}$ or an equivalent equation, but no further correct work is shown.

or

[1] 39 and 63, but no work is shown.

[0] 39 or 63, but no work 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.

(38) **[4]** The frequency table is completed correctly, and a correct frequency histogram is drawn and labeled.

[3] The frequency table is completed correctly, but one graphing or labeling error is made in the frequency histogram.

or

[3] The frequency table is completed incorrectly, but an appropriate frequency histogram is drawn and labeled.

[2] The frequency table is completed correctly, but two or more graphing or labeling errors are made in the frequency histogram.

or

[2] The frequency table is completed correctly, but one conceptual error is made, such as drawing a cumulative frequency histogram, bar graph, or broken-line graph.

[1] Appropriate work is shown, but one conceptual error and one graphing or labeling error are made in the frequency histogram.

or

[1] The frequency table is completed incorrectly, and two or more graphing or labeling errors are made in the frequency histogram.

or

[1] The frequency table is completed correctly, but no further correct 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.

(39) **[4]** Both equations are graphed correctly, and (–1,8) and (5,–4) are stated.

[3] Appropriate work is shown, but one computational or graphing error is made, but the appropriate points of intersection are stated.

or

[3] Both equations are graphed correctly, but only one point of intersection is stated.

[2] Appropriate work is shown, but two or more computational or graphing errors are made, but appropriate points of intersection are stated.

or

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

or

[2] Both equations are graphed correctly, but the points of intersection are not stated or are stated incorrectly.

or

[2] (–1,8) and (5,–4) are found as points of intersection, but a method other than a graphic method is used.

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

or

[1] One of the equations is graphed correctly, but no further correct work is shown.

or

[1] (–1,8) and (5,–4) are stated, but no work is shown.

[0] (–1,8) or (5,–4) is stated, but no work 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.

Map to Core Curriculum

Content Strand	Item Numbers
Number Sense and Operations	10, 26, 27, 31
Algebra	2, 3, 4, 6, 7, 9, 12, 13, 14, 16, 17, 18, 21, 22, 23, 25, 29, 30, 32, 35, 37
Geometry	19, 20, 24, 34, 39
Measurement	1, 11, 28
Probability and Statistics	5, 8, 15, 33, 36, 38

Regents Examination in Integrated Algebra

June 2009

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

The *Chart for Determining the Final Examination Score for the June 2009 Regents Examination in Integrated Algebra* will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Friday, June 19, 2009. Conversion charts provided for previous administrations of the Integrated Algebra 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.

University of the State of New York
State Education Department

Regents Examination in Integrated Algebra
June 2009

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

Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score
87	100	65	84	43	75	21	53
86	99	64	84	42	75	20	51
85	98	63	84	41	74	19	49
84	96	62	83	40	74	18	48
83	95	61	83	39	73	17	46
82	94	60	82	38	72	16	44
81	93	59	82	37	71	15	42
80	92	58	82	36	71	14	40
79	92	57	81	35	70	13	38
78	91	56	81	34	69	12	36
77	90	55	81	33	68	11	33
76	89	54	80	32	67	10	31
75	89	53	80	31	66	9	29
74	88	52	80	30	65	8	26
73	88	51	79	29	64	7	23
72	87	50	79	28	62	6	20
71	87	49	78	27	61	5	17
70	86	48	78	26	60	4	14
69	86	47	78	25	59	3	11
68	86	46	77	24	57	2	7
67	85	45	77	23	56	1	4
66	84	44	76	22	54	0	0

To determine the student's final examination score, find the student's total test raw score in the column labeled "Raw Score" and then locate the scale score that corresponds to that raw score. The scale score is the student's final examination score. Enter this score in the space labeled "Scale Score" on the student's answer sheet.

All student answer papers that receive a scale score of 60 through 64 **must** be scored a second time to ensure the accuracy of the score. 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 may score the same open-ended questions that he/she scored in the first rating of the paper.

Because scale scores corresponding to raw scores in the conversion chart change from one examination to another, it is crucial that for each administration, the conversion chart provided for that administration be used to determine the student's final score. The chart above is usable only for this administration of the Regents Examination in Integrated Algebra.