The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Thursday, January 28, 2010 — 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.

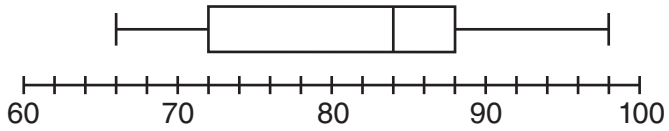
DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.

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 The box-and-whisker plot below represents the math test scores of 20 students.



What percentage of the test scores are *less than* 72?

(1) 25
(2) 50
(3) 75
(4) 100

2 A bag contains eight green marbles, five white marbles, and two red marbles. What is the probability of drawing a red marble from the bag?

(1) $\frac{1}{15}$
(2) $\frac{2}{15}$
(3) $\frac{2}{13}$
(4) $\frac{13}{15}$

3 Julia went to the movies and bought one jumbo popcorn and two chocolate chip cookies for \$5.00. Marvin went to the same movie and bought one jumbo popcorn and four chocolate chip cookies for \$6.00. How much does one chocolate chip cookie cost?

(1) \$0.50
(2) \$0.75
(3) \$1.00
(4) \$2.00

Use this space for computations.

4 Given:

$Q = \{0, 2, 4, 6\}$

$W = \{0, 1, 2, 3\}$

$Z = \{1, 2, 3, 4\}$

What is the intersection of sets Q, W, and Z?

(1) $\{2\}$

(2) $\{0, 2\}$

(3) $\{1, 2, 3\}$

(4) $\{0, 1, 2, 3, 4, 6\}$

5 Roger is having a picnic for 78 guests. He plans to serve each guest at least one hot dog. If each package, p, contains eight hot dogs, which inequality could be used to determine how many packages of hot dogs Roger will need to buy?

(1) $p \geq 78$

(2) $8p \geq 78$

(3) $8 + p \geq 78$

(4) $78 - p \geq 8$

6 In a science fiction novel, the main character found a mysterious rock that decreased in size each day. The table below shows the part of the rock that remained at noon on successive days.

Day	Fractional Part of the Rock Remaining
1	1
2	$\frac{1}{2}$
3	$\frac{1}{4}$
4	$\frac{1}{8}$

Which fractional part of the rock will remain at noon on day 7?

(1) $\frac{1}{128}$

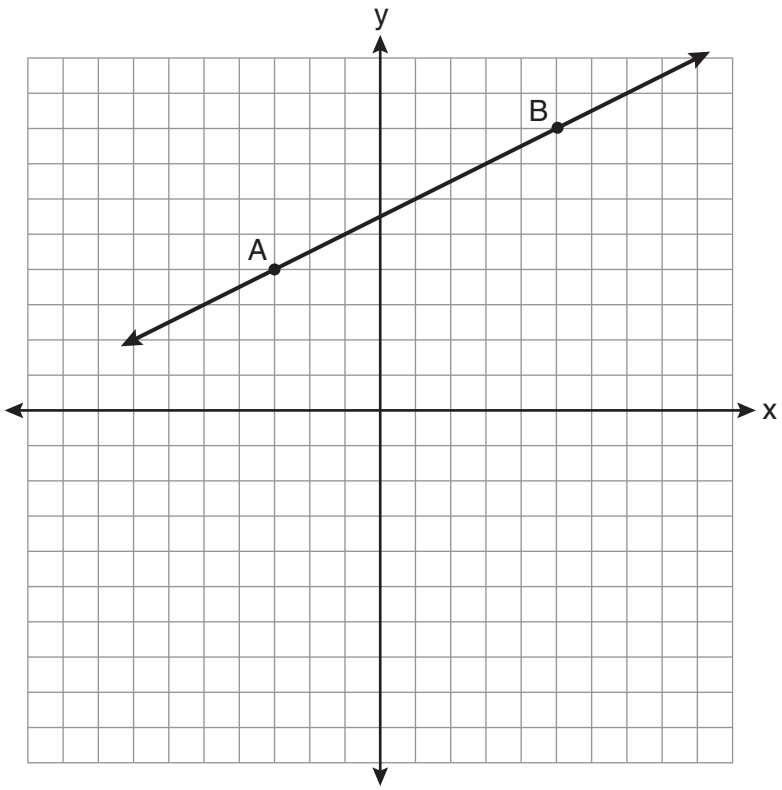
(2) $\frac{1}{64}$

(3) $\frac{1}{14}$

(4) $\frac{1}{12}$

Use this space for computations.

7 In the diagram below, what is the slope of the line passing through points A and B?



(1) -2

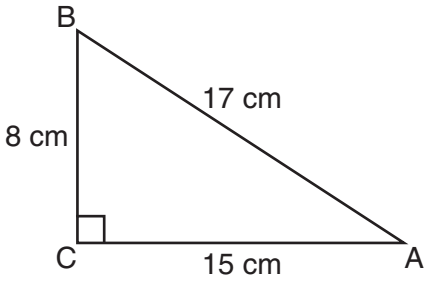
(2) 2

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

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

Use this space for computations.

8 Which equation shows a correct trigonometric ratio for angle A in the right triangle below?



(1) $\sin A = \frac{15}{17}$

(2) $\tan A = \frac{8}{17}$

(3) $\cos A = \frac{15}{17}$

(4) $\tan A = \frac{15}{8}$

9 Debbie solved the linear equation $3(x + 4) - 2 = 16$ as follows:

[Line 1] $3(x + 4) - 2 = 16$

[Line 2] $3(x + 4) = 18$

[Line 3] $3x + 4 = 18$

[Line 4] $3x = 14$

[Line 5] $x = 4\frac{2}{3}$

She made an error between lines

(1) 1 and 2

(2) 2 and 3

(3) 3 and 4

(4) 4 and 5

Use this space for computations.

10 The value of the expression $-|a - b|$ when $a = 7$ and $b = -3$ is

(1) -10

(2) 10

(3) -4

(4) 4

11 Which expression represents $\frac{12x^3 - 6x^2 + 2x}{2x}$ in simplest form?

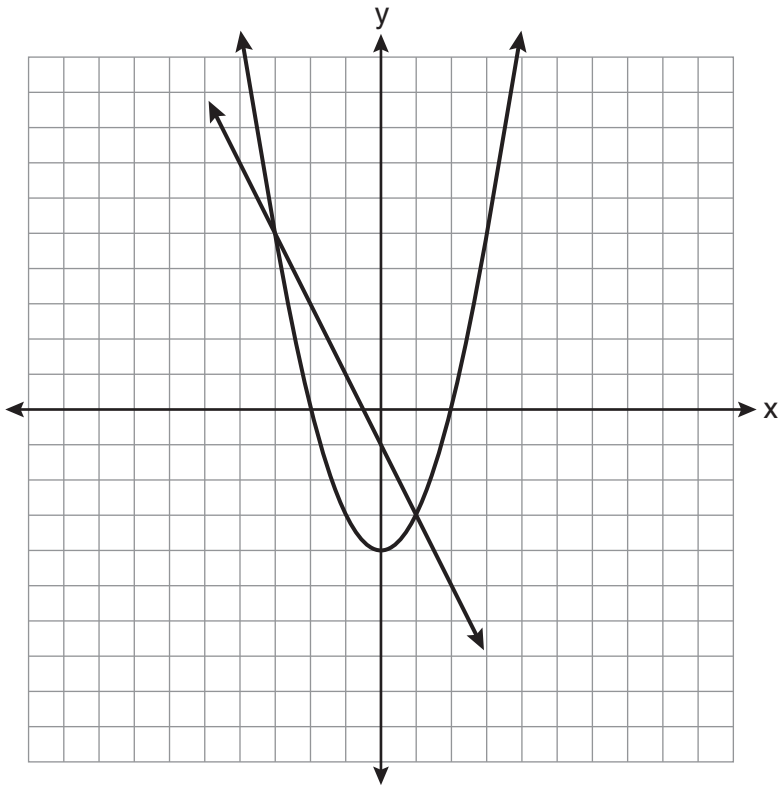
(1) $6x^2 - 3x$

(2) $10x^2 - 4x$

(3) $6x^2 - 3x + 1$

(4) $10x^2 - 4x + 1$

12 Which ordered pair is a solution of the system of equations shown in the graph below?



(1) $(-3,1)$

(2) $(-3,5)$

(3) $(0,-1)$

(4) $(0,-4)$

Use this space for computations.

13 Which equation represents the line that passes through the points (–3,7) and (3,3)?

(1) $y = \frac{2}{3}x + 1$

(2) $y = \frac{2}{3}x + 9$

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

(4) $y = -\frac{2}{3}x + 9$

14 Which data table represents univariate data?

Side Length of a Square	Area of Square
2	4
3	9
4	16
5	25

(1)

Age Group	Frequency
20–29	9
30–39	7
40–49	10
50–59	4

(3)

Hours Worked	Pay
20	$160
25	$200
30	$240
35	$280

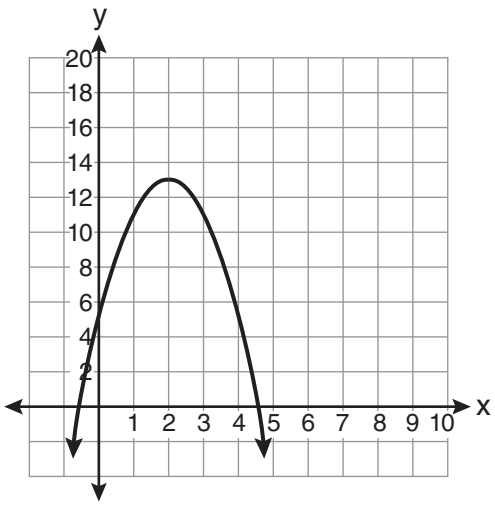
(2)

People	Number of Fingers
2	20
3	30
4	40
5	50

(4)

15 What is the equation of the axis of symmetry of the parabola shown in the diagram below?

Use this space for computations.



(1) $x = -0.5$

(2) $x = 2$

(3) $x = 4.5$

(4) $x = 13$

16 The members of the senior class are planning a dance. They use the equation $r = pn$ to determine the total receipts. What is n expressed in terms of r and p?

(1) $n = r + p$

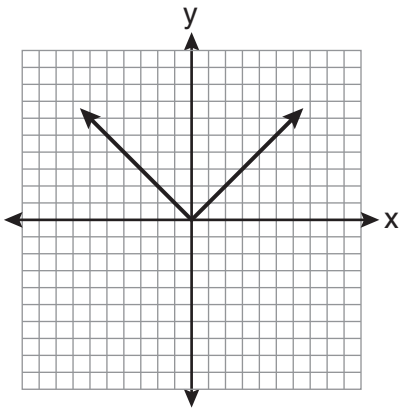
(2) $n = r - p$

(3) $n = \frac{p}{r}$

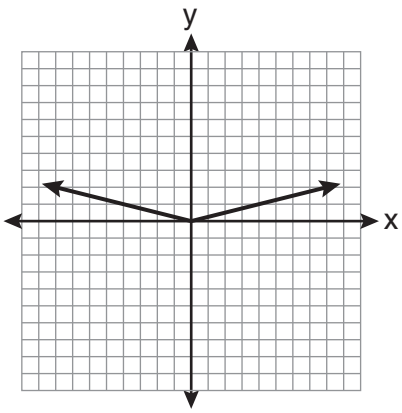
(4) $n = \frac{r}{p}$

17 The graph of the equation $y = |x|$ is shown in the diagram below.

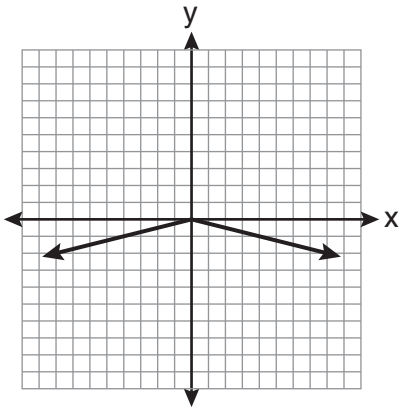
Use this space for computations.



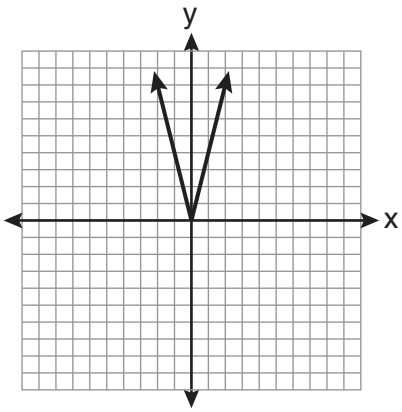
Which diagram could represent a graph of the equation $y = a|x|$ when $-1 < a < 0$?



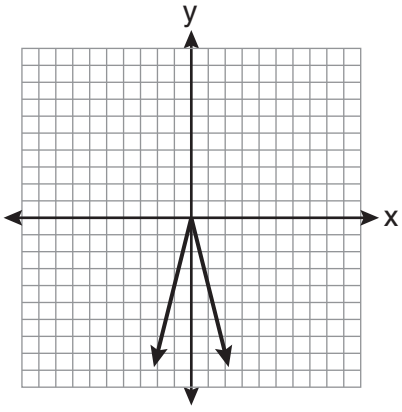
(1)



(3)



(2)



(4)

Use this space for computations.

18 Which relation represents a function?

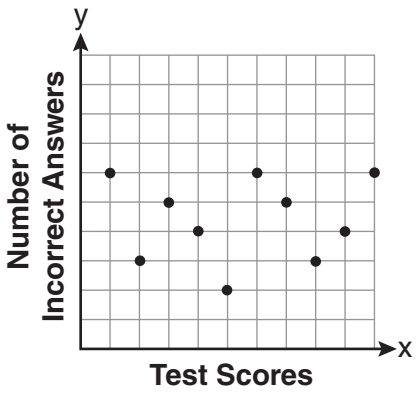
(1) {(0,3), (2,4), (0,6)}

(2) {(–7,5), (–7,1), (–10,3), (–4,3)}

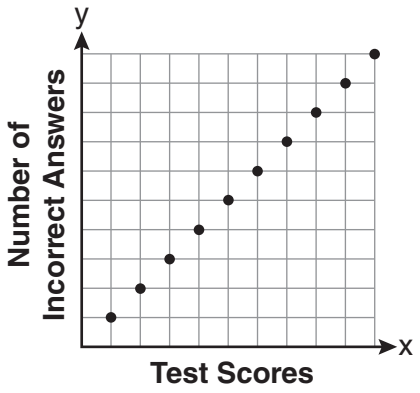
(3) {(2,0), (6,2), (6,–2)}

(4) {(–6,5), (–3,2), (1,2), (6,5)}

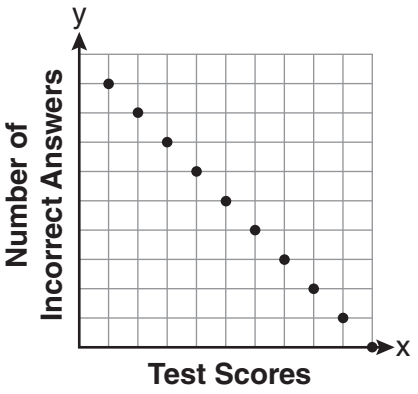
19 Which scatter plot shows the relationship between x and y if x represents a student score on a test and y represents the number of incorrect answers a student received on the same test?



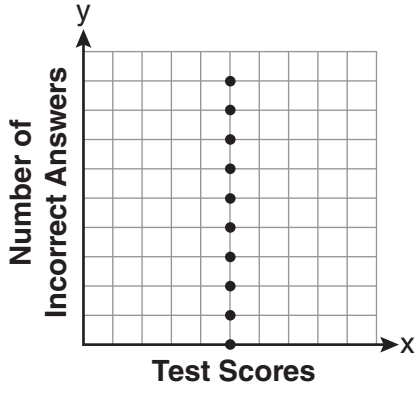
(1)



(3)



(2)



(4)

Use this space for computations.

20 Which expression is equivalent to $3^3 \bullet 3^4$?

(1) 9^{12} (3) 3^{12}

(2) 9^7 (4) 3^7

21 Which point is on the line $4y - 2x = 0$?

(1) $(-2,-1)$ (3) $(-1,-2)$

(2) $(-2,1)$ (4) $(1,2)$

22 If Ann correctly factors an expression that is the difference of two perfect squares, her factors could be

(1) $(2x + y)(x - 2y)$ (3) $(x - 4)(x - 4)$

(2) $(2x + 3y)(2x - 3y)$ (4) $(2y - 5)(y - 5)$

23 Which ordered pair is in the solution set of the following system of linear inequalities?

$$y < 2x + 2$$
$$y \geq -x - 1$$

(1) $(0,3)$ (3) $(-1,0)$

(2) $(2,0)$ (4) $(-1,-4)$

Use this space for computations.

24 The expression $6\sqrt{50} + 6\sqrt{2}$ written in simplest radical form is

(1) $6\sqrt{52}$

(2) $12\sqrt{52}$

(3) $17\sqrt{2}$

(4) $36\sqrt{2}$

25 What is the sum of $\frac{3x^2}{x-2}$ and $\frac{x^2}{x-2}$?

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

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

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

(4) $\frac{4x^2}{x-2}$

26 Which equation represents a line parallel to the graph of $2x - 4y = 16$?

(1) $y = \frac{1}{2}x - 5$

(2) $y = -\frac{1}{2}x + 4$

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

(4) $y = 2x + 8$

27 An example of an algebraic expression is

(1) $\frac{2x+3}{7} = \frac{13}{x}$

(2) $(2x + 1)(x - 7)$

(3) $4x - 1 = 4$

(4) $x = 2$

Use this space for computations.

28 What is the solution set of $\frac{x+2}{x-2} = \frac{-3}{x}$?

(1) {–2, 3}
(2) {–3, –2}
(3) {–1, 6}
(4) {–6, 1}

29 How many square inches of wrapping paper are needed to entirely cover a box that is 2 inches by 3 inches by 4 inches?

(1) 18
(2) 24
(3) 26
(4) 52

30 Which situation describes a correlation that is *not* a causal relationship?

(1) the length of the edge of a cube and the volume of the cube
(2) the distance traveled and the time spent driving
(3) the age of a child and the number of siblings the child has
(4) the number of classes taught in a school and the number of teachers employed

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 Angela wants to purchase carpeting for her living room. The dimensions of her living room are 12 feet by 12 feet. If carpeting is sold by the square yard, determine how many square yards of carpeting she must purchase.

3 feet = 1 yard
9 square feet = 1 square yard

32 In right triangle ABC, $AB = 20$, $AC = 12$, $BC = 16$, and $m\angle C = 90$.

Find, to the *nearest degree*, the measure of $\angle A$.

33 Jon is buying tickets for himself for two concerts. For the jazz concert, 4 tickets are available in the front row, and 32 tickets are available in the other rows. For the orchestra concert, 3 tickets are available in the front row, and 23 tickets are available in the other rows. Jon is randomly assigned one ticket for each concert.

Determine the concert for which he is more likely to get a front-row ticket. Justify your answer.

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 Find the roots of the equation $x^2 - x = 6$ algebraically.

35 Ms. Mosher recorded the math test scores of six students in the table below.

Student	Student Score
Andrew	72
John	80
George	85
Amber	93
Betty	78
Roberto	80

Determine the mean of the student scores, to the *nearest tenth*.

Determine the median of the student scores.

Describe the effect on the mean and the median if Ms. Mosher adds 5 bonus points to each of the six students' scores.

36 Using his ruler, Howell measured the sides of a rectangular prism to be 5 cm by 8 cm by 4 cm. The actual measurements are 5.3 cm by 8.2 cm by 4.1 cm. Find Howell's relative error in calculating the volume of the prism, to the *nearest thousandth*.

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]

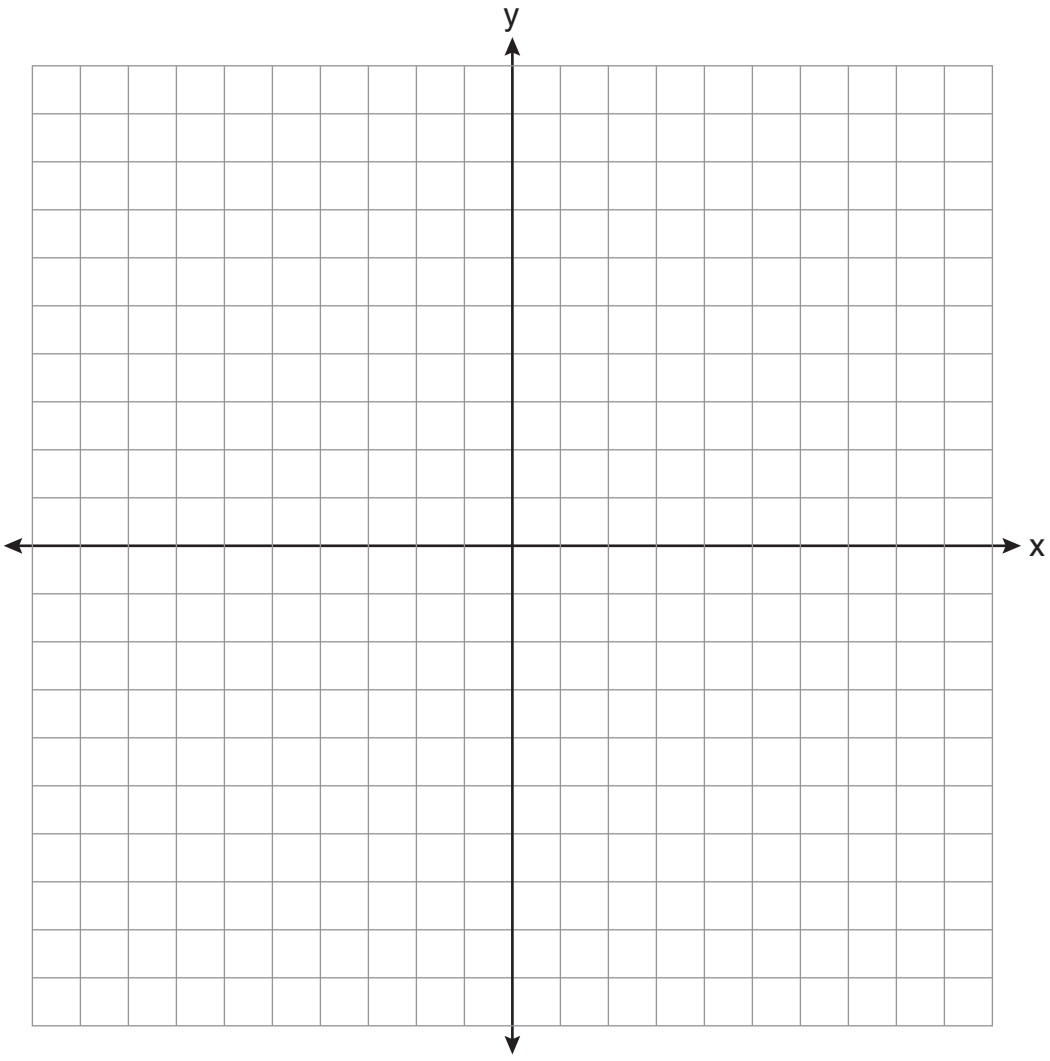
37 A password consists of three digits, 0 through 9, followed by three letters from an alphabet having 26 letters.

If repetition of digits is allowed, but repetition of letters is not allowed, determine the number of different passwords that can be made.

If repetition is not allowed for digits or letters, determine how many fewer different passwords can be made.

38 Graph the solution set for the inequality $4x - 3y > 9$ on the set of axes below.

Determine if the point (1,–3) is in the solution set. Justify your answer.



39 Find three consecutive positive even integers such that the product of the second and third integers is twenty more than ten times the first integer. [Only an algebraic solution can receive full credit.]

Tear Here

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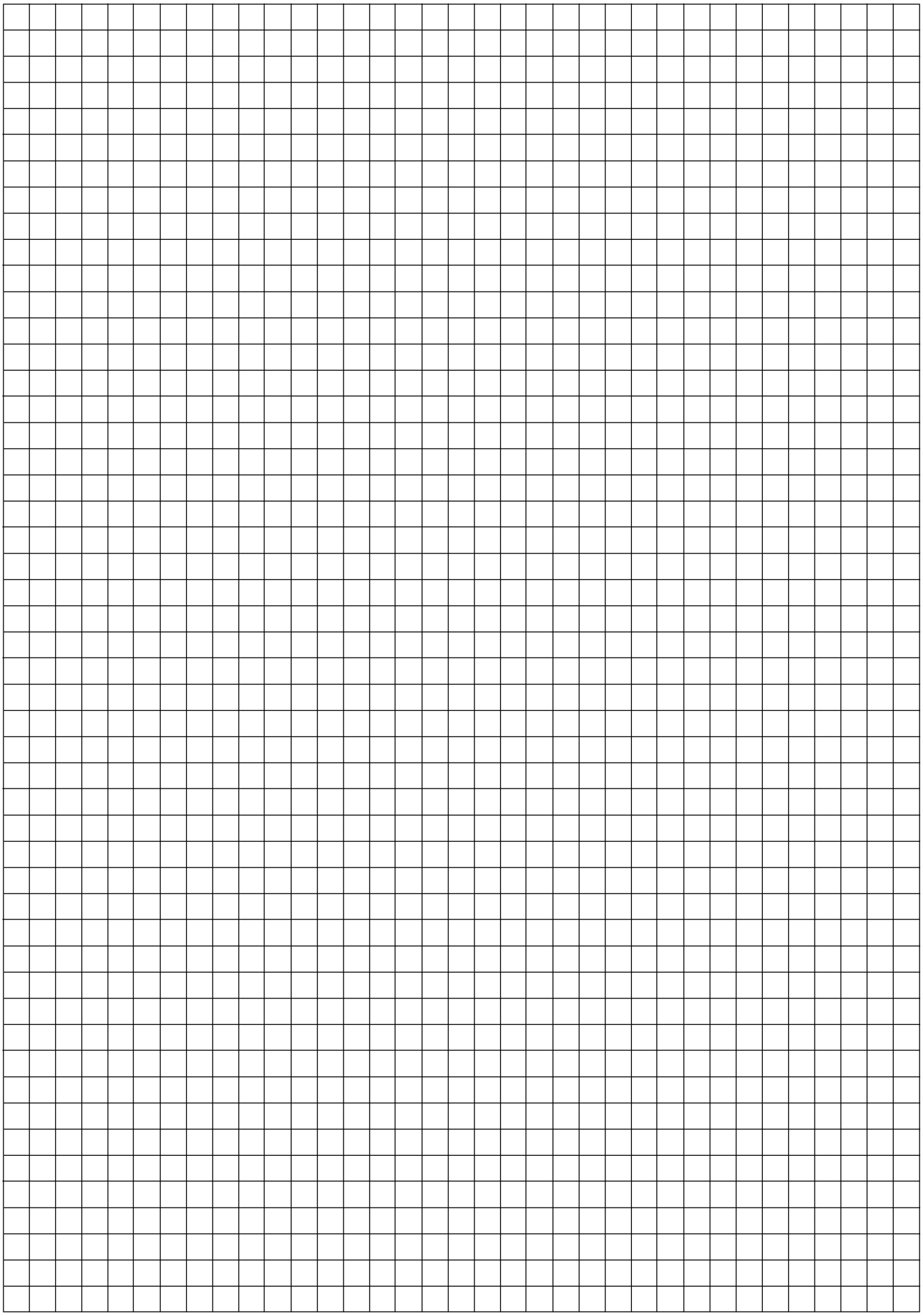
Scrap Graph Paper — This sheet will *not* be scored.



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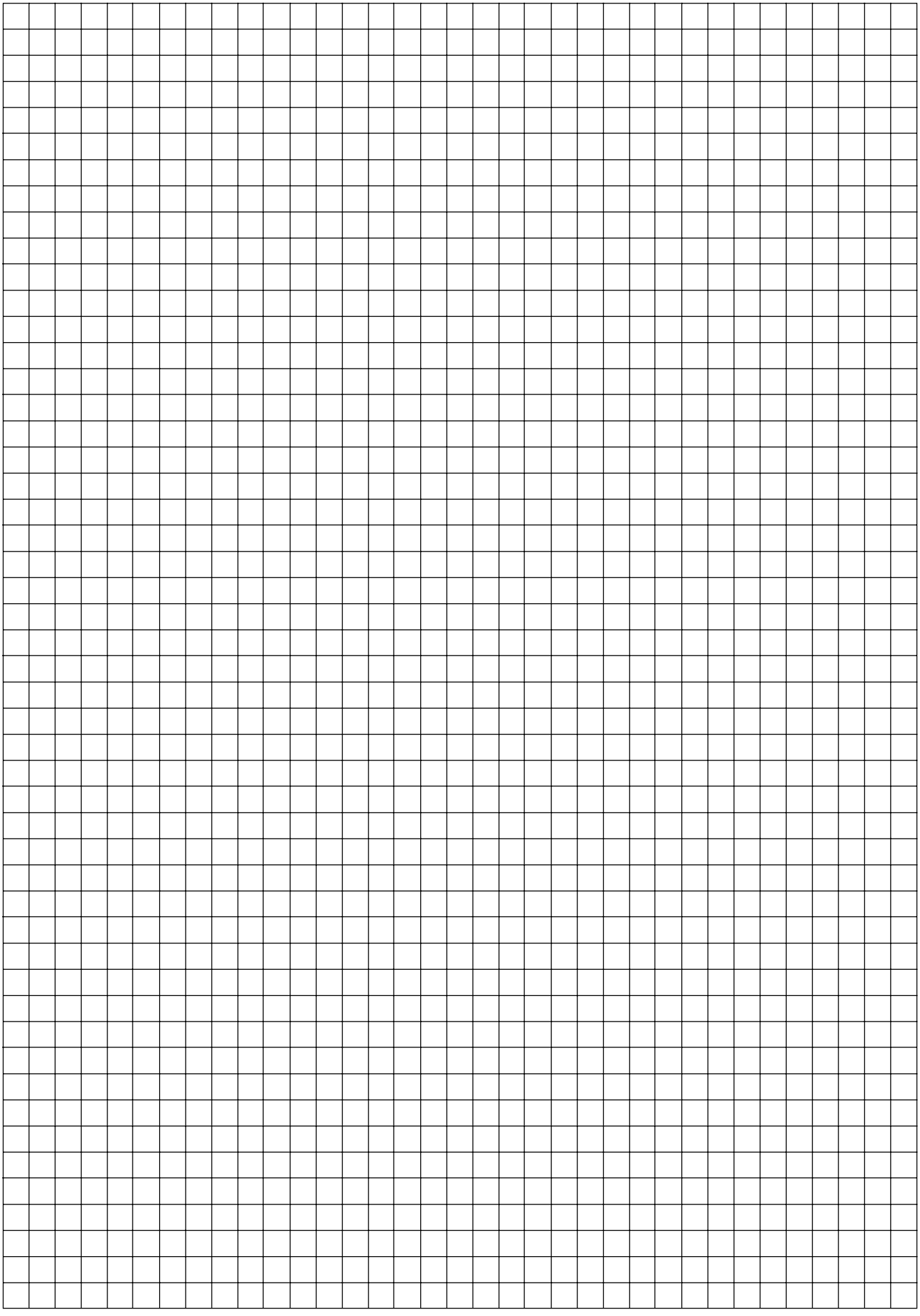

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The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Thursday, January 28, 2010 — 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 must 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.

Tear Here

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

Scale Score
(from conversion chart)

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

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Tear Here

INTEGRATED ALGEBRA

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Thursday, January 28, 2010 — 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 Examinations in Integrated Algebra and 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 scale score by using the conversion chart that will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Thursday, January 28, 2010. The student's scale score should be entered in the box provided on the student's detachable answer sheet. The scale 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) 1	(9) 2	(17) 3	(25) 4
(2) 2	(10) 1	(18) 4	(26) 1
(3) 1	(11) 3	(19) 2	(27) 2
(4) 1	(12) 2	(20) 4	(28) 4
(5) 2	(13) 3	(21) 1	(29) 4
(6) 2	(14) 3	(22) 2	(30) 3
(7) 4	(15) 2	(23) 2	
(8) 3	(16) 4	(24) 4	

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 Examinations 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 Examinations in Integrated Algebra and Geometry*, use their own professional judgment, confer with other mathematics teachers, and/or contact 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]** 16, 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] 16, 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]** 53, and appropriate work is shown.

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

or

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

or

[1] A correct trigonometric equation is written, but no further correct work is shown.

or

[1] 53, 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]** Orchestra, and appropriate work is shown as justification.

[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 not dividing by the total number of tickets available.

or

[1] Appropriate work is shown, but orchestra is not stated.

[0] Orchestra, 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.

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]** –2 and 3, and appropriate algebraic work is shown.

[2] Appropriate work is shown, but one computational or factoring error is made, but two appropriate solutions are stated.

or

[2] Appropriate work is shown to find $(x - 3)(x + 2) = 0$, but no further correct work is shown.

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

or

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

or

[1] An appropriate quadratic equation in standard form (set equal to zero) is written, but no further correct work is shown.

or

[1] –2 and 3, but a method other than algebraic is used.

or

[1] –2 and 3, but no work is shown.

[0] –2 or 3, 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.

(35) **[3]** Mean = 81.3, median = 80, and appropriate work is shown, and an appropriate description is given, such as that both the mean and median will increase or that the mean becomes 86.3 and the median becomes 85.

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

or

[2] Mean = 81.3, median = 80, and appropriate work is shown, but the description is missing or is incorrect.

or

[2] Mean = 81.3 and median = 80, but no work is shown, but an appropriate description is given.

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

or

[1] Appropriate work is shown, but one conceptual error is made, but an appropriate description is given.

or

[1] Mean = 81.3 and median = 80, but no work is shown, and no description is given.

[0] Mean = 81.3 or median = 80, but no work is shown, and no description is given.

or

[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]** 0.102, and appropriate work is shown.

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

or

[2] $\frac{178.186-160}{178.186}$ or an equivalent expression, but the relative error is not found or is found incorrectly.

[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, such as dividing by 160.

or

[1] Appropriate work is shown to find 160 and 178.186, but no further correct work is shown.

or

[1] 0.102, 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 four credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(37) **[4]** 15,600,000 and 4,368,000, and appropriate work is shown.

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

or

[3] Appropriate work is shown to find 15,600,000 and 11,232,000, but the values are not subtracted.

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

or

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

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

or

[1] Appropriate work is shown to find 15,600,000 or 11,232,000, but no further correct work is shown.

or

[1] 10•10•10•26•25•24 and 10•9•8•26•25•24, but no further correct work is shown.

or

[1] 15,600,000 and 4,368,000, but no work is shown.

[0] 15,600,000 or 4,368,000, 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 inequality is graphed correctly, and "yes" and an appropriate justification is given, such as plotting the point or checking algebraically.

[3] Appropriate work is shown, but one graphing error is made, such as drawing a solid line or shading incorrectly, but an appropriate answer and justification are given.

[2] Appropriate work is shown, but two or more graphing errors are made, but an appropriate answer and justification are given.

or

[2] Appropriate work is shown, but one conceptual error is made, but an appropriate answer and justification are given.

or

[2] The inequality is graphed correctly, but no further correct work is shown.

[1] Appropriate work is shown, but one conceptual error and one graphing error are made, but an appropriate answer and justification are given.

or

[1] The line $4x - 3y = 9$ is graphed correctly, but no further correct work is shown.

or

[1] Algebraic work is shown determining that (1,–3) is in the solution set, but no graph is shown.

[0] "Yes," 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.

(39) **[4]** 6, 8, and 10, and appropriate algebraic work is shown.

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

or

[3] Appropriate work is shown, but only one correct positive integer is found.

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

or

[2] Appropriate work is shown, but one conceptual error is made, such as finding consecutive integers.

or

[2] A correct quadratic equation in standard form (set equal to zero) is written, but no further correct work is shown.

or

[2] 6, 8, and 10, but a method other than algebraic is used.

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

or

[1] An appropriate equation is written, but no further correct work is shown.

or

[1] 6, 8, and 10, but no work is shown.

[0] 6 or 8 or 10, 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, 24, 37
Algebra	3, 4, 5, 6, 7, 8, 9, 11, 13, 16, 20, 21, 22, 23, 25, 26, 27, 28, 32, 34, 39
Geometry	12, 15, 17, 18, 29, 38
Measurement	31, 36
Statistics and Probability	1, 2, 14, 19, 30, 33, 35

Regents Examination in Integrated Algebra

January 2010

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

The *Chart for Determining the Final Examination Score for the January 2010 Regents Examination in Integrated Algebra* will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Thursday, January 28, 2010. Conversion charts provided for previous administrations of the Integrated Algebra examination must NOT be used to determine students' final scores for this administration.

Submitting 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
January 2010

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