The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Wednesday, August 18, 2010 — 8:30 to 11:30 a.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]
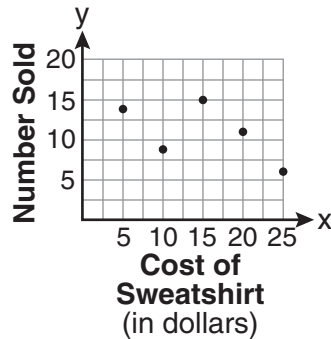
1 The school store did a study comparing the cost of a sweatshirt with the number of sweatshirts sold. The price was changed several times and the numbers of sweatshirts sold were recorded. The data are shown in the table below.

Cost of Sweatshirt	$10	$25	$15	$20	$5
Number Sold	9	6	15	11	14

Which scatter plot represents the data?

(1)

(3)

(2)

(4)
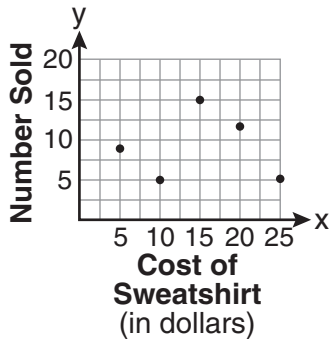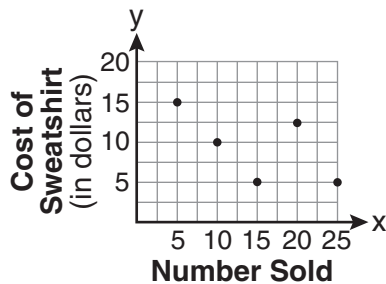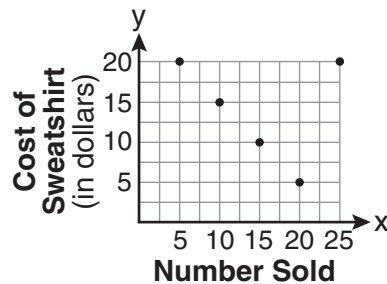
2 What is the solution of $3(2m - 1) \leq 4m + 7$?

(1) $m \leq 5$ (3) $m \leq 4$

(2) $m \geq 5$ (4) $m \geq 4$

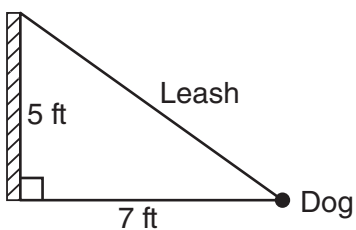**3** Which set represents the intersection of sets A, B, and C shown in the diagram below?
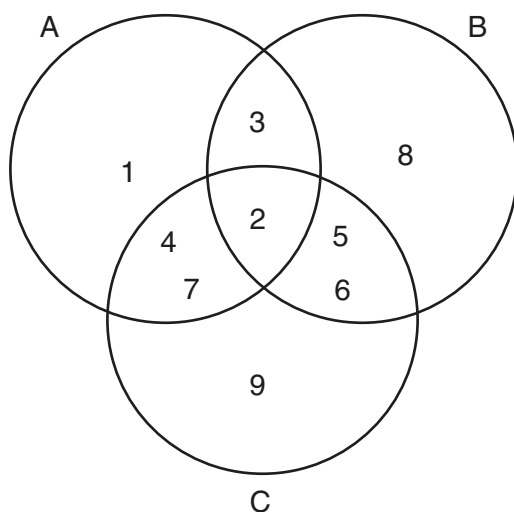
(1) $\{3, 4, 5, 6, 7\}$ (3) $\{2, 3, 4, 5, 6, 7\}$

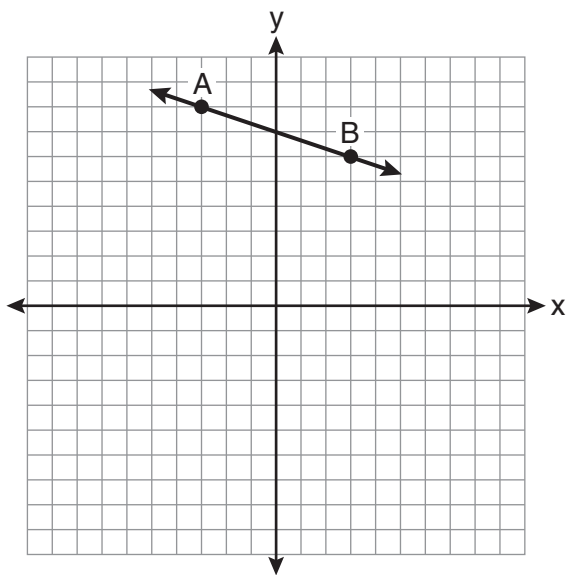(2) $\{2\}$ (4) $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

4 The end of a dog's leash is attached to the top of a 5-foot-tall fence post, as shown in the diagram below. The dog is 7 feet away from the base of the fence post.

How long is the leash, to the *nearest tenth of a foot*?

(1) 4.9   (3) 9.0

(2) 8.6   (4) 12.0

5 What is the slope of the line passing through the points A and B, as shown on the graph below?

(1) −3   (3) 3

(2) $-\dfrac{1}{3}$ (4) $\dfrac{1}{3}$

6 The quotient of (9.2×10^6) and (2.3×10^2) expressed in scientific notation is

(1) 4,000

(3) 4×10^3

(2) 40,000

(4) 4×10^4

7 In a recent town election, 1,860 people voted for either candidate A or candidate B for the position of supervisor. If candidate A received 55% of the votes, how many votes did candidate B receive?

(1) 186

(3) 1,023

(2) 837

(4) 1,805

8 Which expression is equivalent to $121 - x^2$?

(1) $(x - 11)(x - 11)$

(3) $(11 - x)(11 + x)$

(2) $(x + 11)(x - 11)$

(4) $(11 - x)(11 - x)$

9 Given:

$$U = \{1, 2, 3, 4, 5, 6, 7, 8\}$$
$$B = \{2, 3, 5, 6\}$$

Set B is a subset of set U. What is the complement of set B?
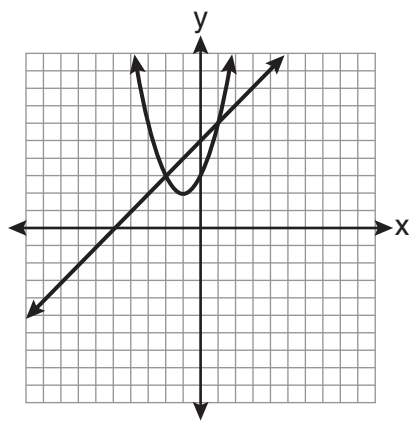
(1) { }

(3) $\{1, 4, 7, 8\}$

(2) $\{2, 3, 5, 6\}$

(4) $\{1, 2, 3, 4, 5, 6, 7, 8\}$

10 Which graph can be used to find the solution of the following system of equations?

$$y = x^2 + 2x + 3$$
$$2y - 2x = 10$$

(1)

(3)

(2)

(4)
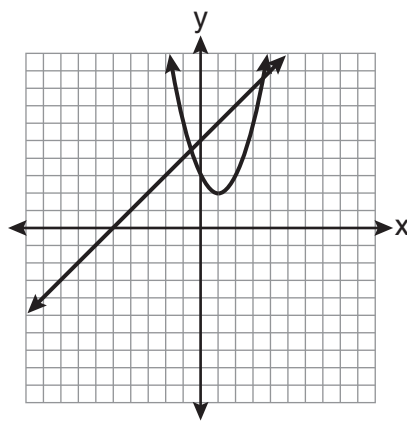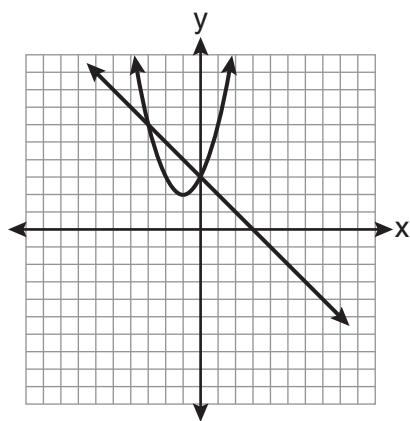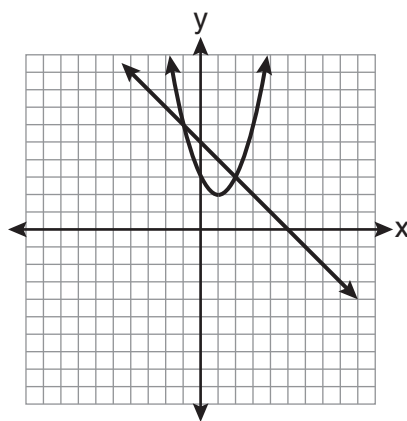
11 The width of a rectangle is 3 less than twice the length, x. If the area of the rectangle is 43 square feet, which equation can be used to find the length, in feet?

(1) $2x(x - 3) = 43$ (3) $2x + 2(2x - 3) = 43$

(2) $x(3 - 2x) = 43$ (4) $x(2x - 3) = 43$

12 Which value of x is the solution of $\frac{2x - 3}{x - 4} = \frac{2}{3}$?

(1) $-\frac{1}{4}$ (3) -4

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

13 What is the perimeter of a regular pentagon with a side whose length is $x + 4$?

(1) $x^2 + 16$ (3) $5x + 4$

(2) $4x + 16$ (4) $5x + 20$

14 Which equation represents a line parallel to the y-axis?

(1) $x = y$ (3) $y = 4$

(2) $x = 4$ (4) $y = x + 4$

15 The diagram below shows the graph of $y = -x^2 - c$.
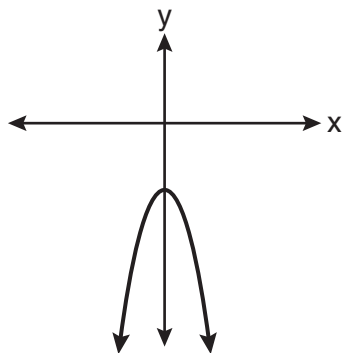
Which diagram shows the graph of $y = x^2 - c$?

(1)

(3)

(2)

(4)
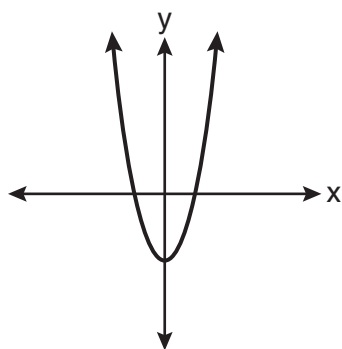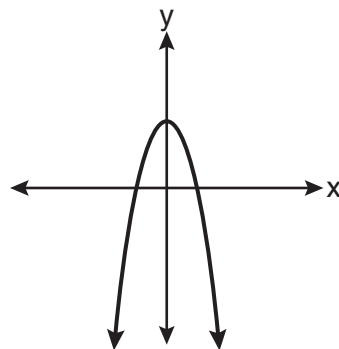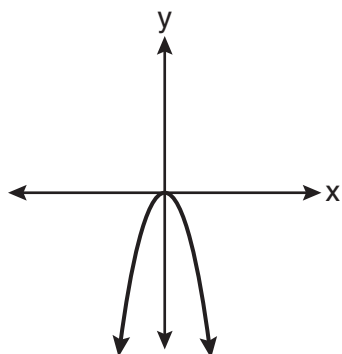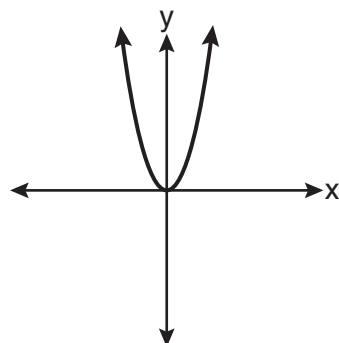
16 Which point lies on the line whose equation is $2x - 3y = 9$?

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

(2) $(-1,3)$ (4) $(0,-3)$

17 Which phrase best describes the relationship between the number of miles driven and the amount of gasoline used?

(1) causal, but not correlated

(2) correlated, but not causal

(3) both correlated and causal

(4) neither correlated nor causal

18 The height, y, of a ball tossed into the air can be represented by the equation $y = -x^2 + 10x + 3$, where x is the elapsed time. What is the equation of the axis of symmetry of this parabola?

(1) $y = 5$ (3) $x = 5$

(2) $y = -5$ (4) $x = -5$

19 In the diagram below, $MATH$ is a rectangle, $GB = 4.6$, $MH = 6$, and $HT = 15$.
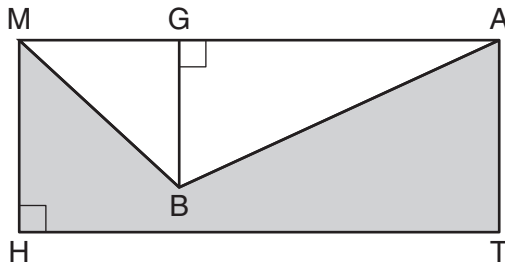
What is the area of polygon $MBATH$?

(1) 34.5   (3) 90.0

(2) 55.5   (4) 124.5

20 This year, John played in 10 baseball games. In these games he had hit the ball 2, 3, 0, 1, 3, 2, 4, 0, 2, and 3 times. In the first 10 games he plays next year, John wants to increase his average (mean) hits per game by 0.5. What is the total number of hits John needs over the first 10 games next year to achieve his goal?

(1) 5   (3) 20

(2) 2   (4) 25

21 What is the value of the y-coordinate of the solution to the system of equations $2x + y = 8$ and $x - 3y = -3$?

(1) -2 (3) 3

(2) 2   (4) -3

22 Which set-builder notation describes $\{-3, -2, -1, 0, 1, 2\}$?

(1) $\{x | -3 \leq x < 2,$ where x is an integer$\}$

(2) $\{x | -3 < x \leq 2,$ where x is an integer$\}$

(3) $\{x | -3 < x < 2,$ where x is an integer$\}$

(4) $\{x | -3 \leq x \leq 2,$ where x is an integer$\}$

23 Corinne calculated the area of a paper plate to be 50.27 square inches. If the actual area of the plate is 55.42 square inches, what is the relative error in calculating the area, to the *nearest thousandth*?

(1) 0.092　　　　　　　　　(3) 0.102

(2) 0.093　　　　　　　　　(4) 0.103

24 The probability that it will snow on Sunday is $\frac{3}{5}$. The probability that it will snow on both Sunday and Monday is $\frac{3}{10}$. What is the probability that it will snow on Monday, if it snowed on Sunday?

(1) $\frac{9}{50}$　　　　　　　　　(3) $\frac{1}{2}$

(2) 2　　　　　　　　　　(4) $\frac{9}{10}$

25 Which graph represents an exponential equation?

(1)

(3)

(2)

(4)
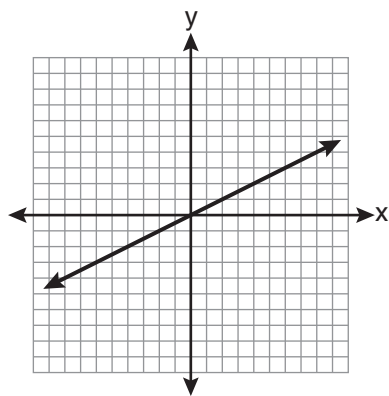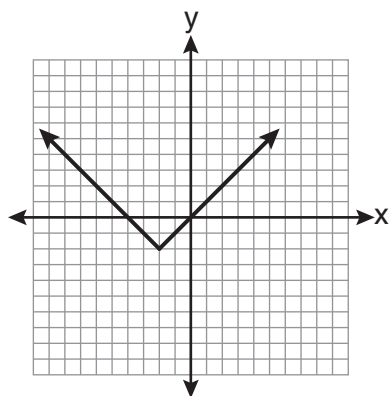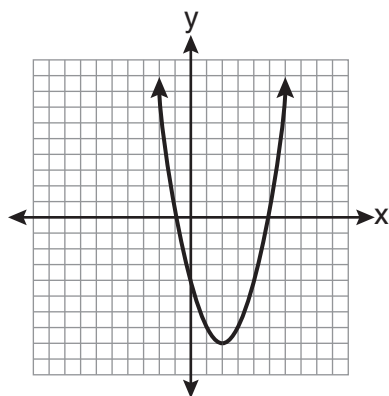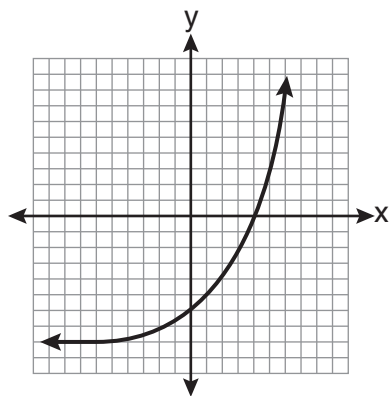
26 Right triangle *ABC* has legs of 8 and 15 and a hypotenuse of 17, as shown in the diagram below.
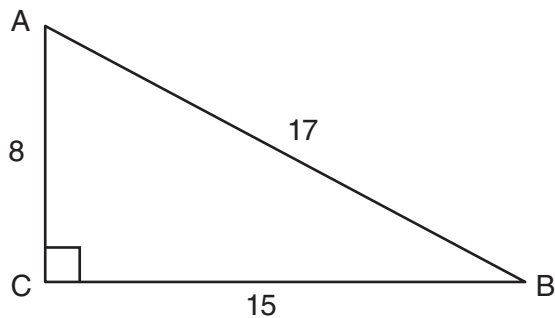
The value of the tangent of ∠*B* is

(1) 0.4706

(3) 0.8824

(2) 0.5333

(4) 1.8750

27 What is $\dfrac{2 + x}{5x} - \dfrac{x - 2}{5x}$ expressed in simplest form?

(1) 0

(3) $\dfrac{4}{5x}$

(2) $\dfrac{2}{5}$

(4) $\dfrac{2x + 4}{5x}$

28 How many different four-letter arrangements are possible with the letters G, A, R, D, E, N if each letter may be used only once?

(1) 15   (3) 360

(2) 24   (4) 720

29 What is an equation of the line that passes through the points $(1,3)$ and $(8,5)$?

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

(2) $y - 5 = \frac{2}{7}(x - 8)$ (4) $y + 5 = \frac{2}{7}(x - 8)$

30 An example of an algebraic expression is

(1) $x + 2$ (3) $y < x + 2$

(2) $y = x + 2$ (4) $y = x^2 + 2x$

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 Express in simplest form: $\dfrac{45a^4b^3 - 90a^3b}{15a^2b}$

32 Joseph typed a 1,200-word essay in 25 minutes. At this rate, determine how many words he can type in 45 minutes.

33 Express $-3\sqrt{48}$ in simplest radical form.

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 The number of songs fifteen students have on their MP3 players is:

120, 124, 132, 145, 200, 255, 260, 292, 308, 314, 342, 407, 421, 435, 452

State the values of the minimum, 1st quartile, median, 3rd quartile, and maximum.

Using these values, construct a box-and-whisker plot using an appropriate scale on the line below.

35 Find the volume, in cubic centimeters, *and* the surface area, in square centimeters, of the rectangular prism shown below.

4 cm

2 cm

10 cm
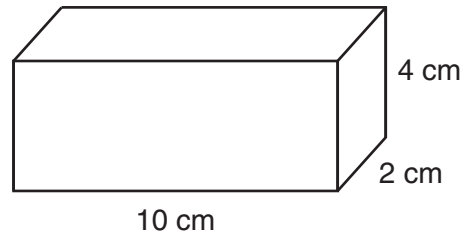
36 Find the roots of the equation $x^2 = 30 - 13x$ algebraically.

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 On the set of axes below, solve the following system of inequalities graphically.

$$y < 2x + 1$$
$$y \geq -\frac{1}{3}x + 4$$

State the coordinates of a point in the solution set.
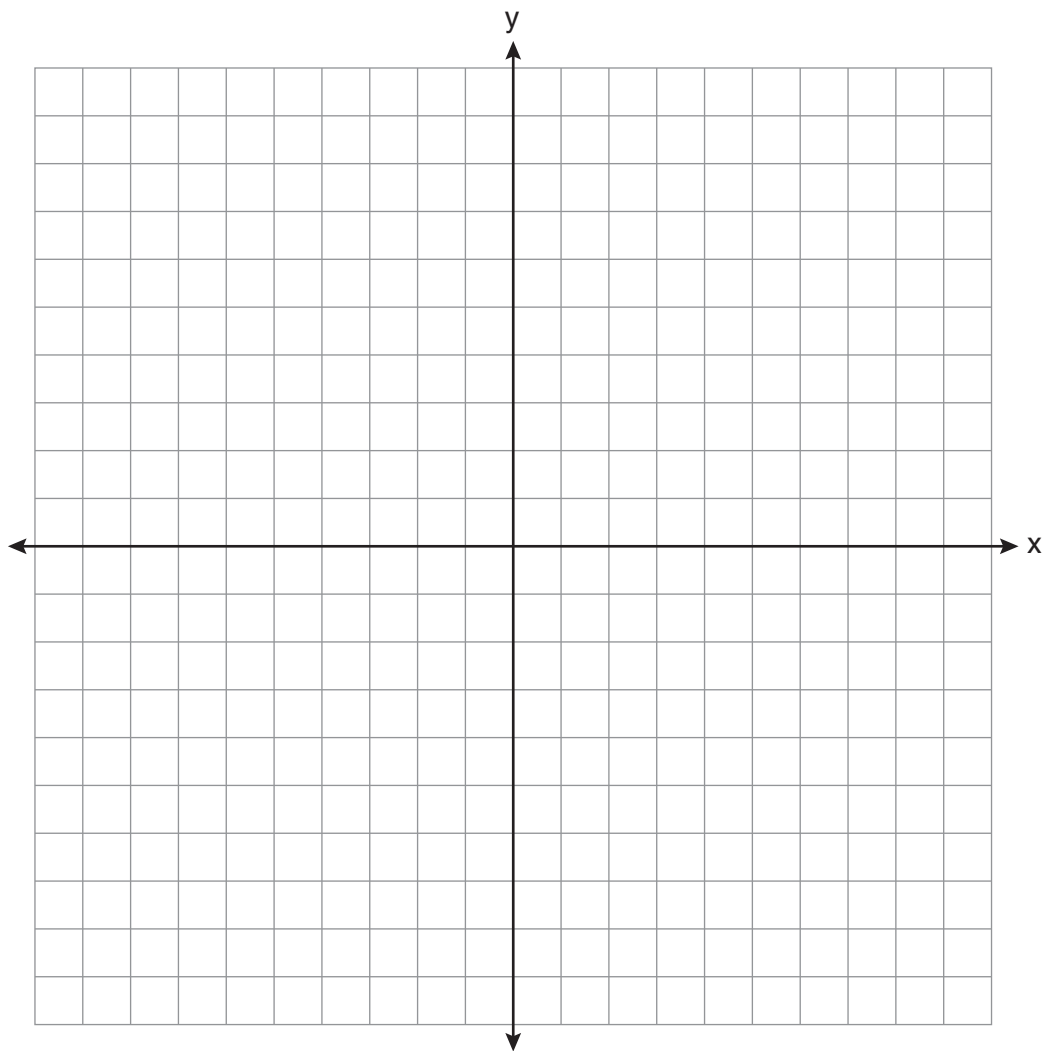
38 Each of the hats shown below has colored marbles placed inside. Hat *A* contains five green marbles and four red marbles. Hat *B* contains six blue marbles and five red marbles. Hat *C* contains five green marbles and five blue marbles.

Hat A   Hat B   Hat C

If a student were to randomly pick one marble from each of these three hats, determine from which hat the student would most likely pick a green marble. Justify your answer.

Determine the fewest number of marbles, if any, and the color of these marbles that could be added to *each* hat so that the probability of picking a green marble will be one-half in each of the three hats.

39 A hot-air balloon is tied to the ground with two taut (straight) ropes, as shown in the diagram below. One rope is directly under the balloon and makes a right angle with the ground. The other rope forms an angle of 50° with the ground.

Hot-air balloon

110 feet

50°
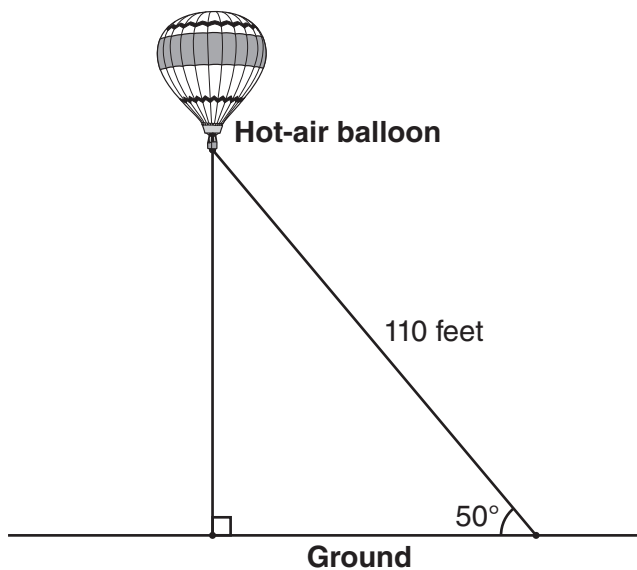
Ground

Determine the height, to the *nearest foot*, of the balloon directly above the ground.

Determine the distance, to the *nearest foot*, on the ground between the two ropes.

Reference Sheet

Trigonometric Ratios	$\sin A = \dfrac{opposite}{hypotenuse}$
	$\cos A = \dfrac{adjacent}{hypotenuse}$
	$\tan A = \dfrac{opposite}{adjacent}$

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	$m = \dfrac{\mathbf{\Delta} y}{\mathbf{\Delta} x} = \dfrac{y_2 - y_1}{x_2 - x_1}$
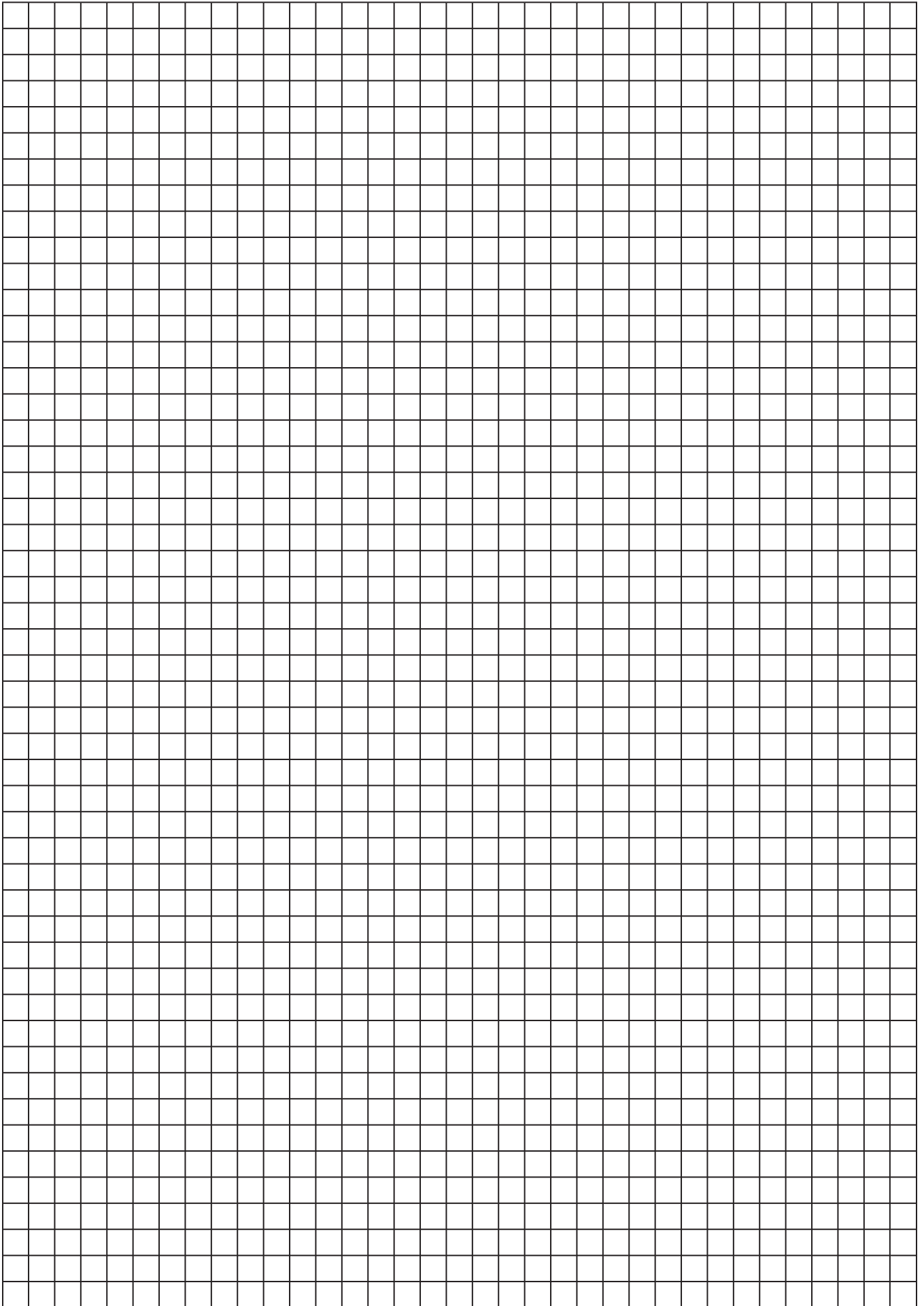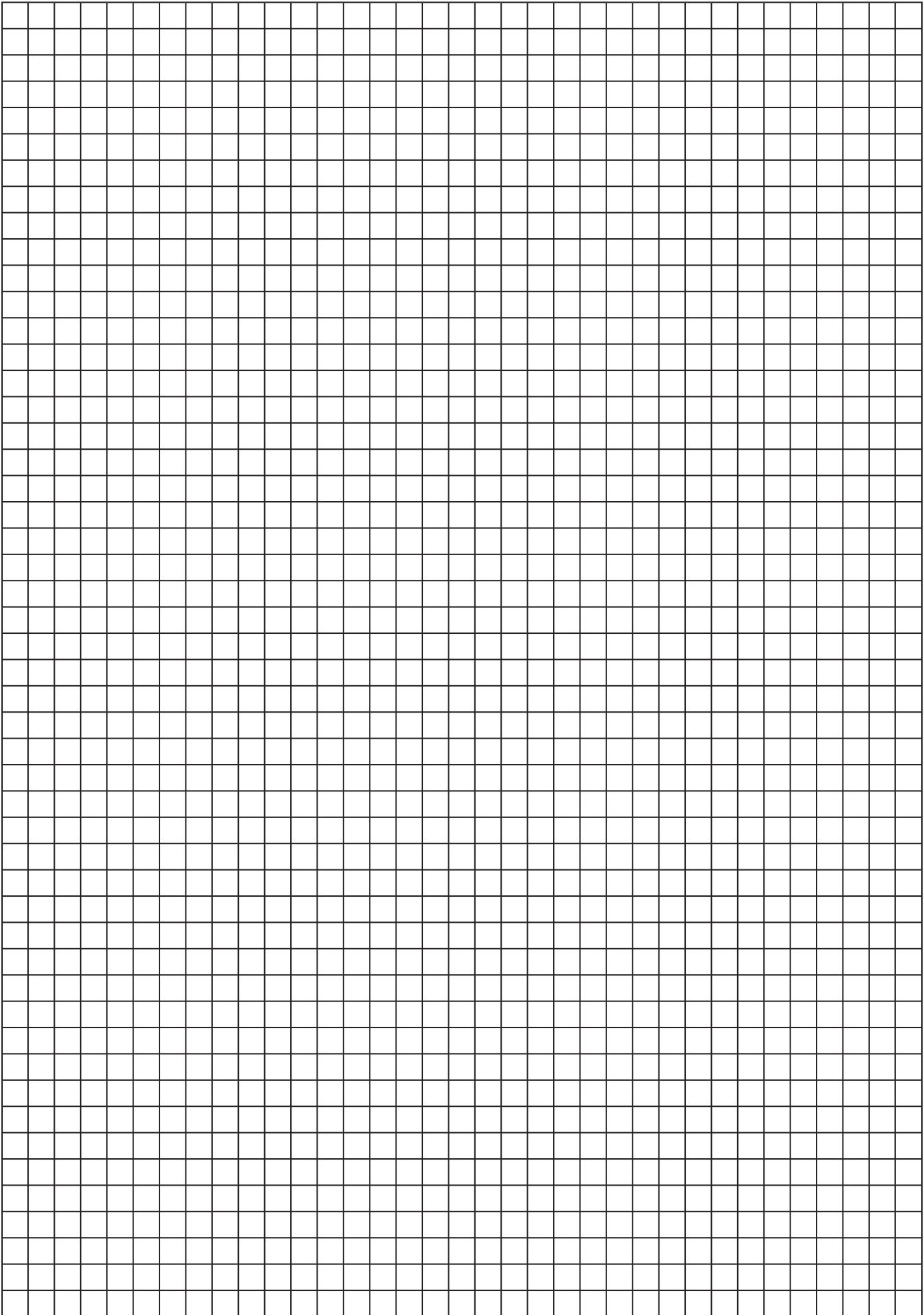
INTEGRATED ALGEBRA

Wednesday, August 18, 2010 — 8:30 to 11:30 a.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.

_____

Signature

Tear Here

Tear Here

INTEGRATED ALGEBRA

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)

INTEGRATED ALGEBRA

FOR TEACHERS ONLY

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INTEGRATED ALGEBRA

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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 Mathematics*.

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 Wednesday, August 18, 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)	3	(9)	3	(17)	3	(25)	4
(2)	1	(10)	1	(18)	3	(26)	2
(3)	2	(11)	4	(19)	2	(27)	3
(4)	2	(12)	2	(20)	4	(28)	3
(5)	2	(13)	4	(21)	2	(29)	2
(6)	4	(14)	2	(22)	4	(30)	1
(7)	2	(15)	1	(23)	2		
(8)	3	(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 Examinations in Mathematics*, 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, graphs, 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).

[OVER]

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]** $3a^2b^2 - 6a$ or an equivalent simplified expression, and appropriate work is shown.

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

or

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

or

[1] $3a^2b^2 - 6a$ or an equivalent simplified expression, 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]** 2,160, 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] $\dfrac{1200}{25} = \dfrac{x}{45}$ or an equivalent equation, but no further correct work is shown.

or

[1] Appropriate work is shown to find a rate of 48 words per minute, but no further correct work is shown.

or

[1] 2,160, 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]** $-12\sqrt{3}$, 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] Appropriate work is shown, but the answer is not expressed in simplest radical form.

or

[1] $-12\sqrt{3}$, but no work is shown.

[0] The answer is expressed as a decimal, and 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]** Minimum = 120, first quartile = 145, median = 292, third quartile = 407, and maximum = 452 are indicated, and a correct box-and-whisker plot with an appropriate scale is drawn.

[2] Five correct values are indicated, but one graphing error is made, such as using an inappropriate scale.

or

[2] Four correct values are indicated, and an appropriate box-and-whisker plot is drawn.

[1] Five correct values are indicated, but two or more graphing errors are made.

or

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

or

[1] Two or three correct values are indicated, and an appropriate box-and-whisker plot is drawn.

or

[1] Five correct values are indicated, but no box-and-whisker plot is drawn.

[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]** Volume = 80 and surface area = 136, and appropriate work is shown.

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

or

[2] Appropriate work is shown to find 80 and 136, but the values are not labeled or are labeled incorrectly.

or

[2] Appropriate work is shown to find surface area = 136, 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 volume = 80, but no further correct work is shown.

or

[1] Volume = 80 and surface area = 136, but no work is shown.

[0] Volume = 80 or surface area = 136, 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.

(36)   **[3]** –15 and 2, and appropriate algebraic work is shown.

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

or

[2] Appropriate work is shown to find $(x + 15)(x - 2) = 0$, but no further correct work is shown.

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

or

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

or

[1] –15 and 2, but a method other than algebraic is used.

or

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

or

[1] –15 and 2, but no work is shown.

[0] –15 or 2, but no work is shown, or a method other than algebraic is used.

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 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]** Both inequalities are graphed and shaded correctly, and at least one inequality is labeled, and the coordinates of a point in the solution set are stated.

[3] Appropriate work is shown, but one graphing error is made, such as drawing a dashed line instead of a solid line or shading incorrectly, but an appropriate point in the solution set is stated.

or

[3] Both inequalities are graphed and shaded correctly, and a point in the solution set is stated, but the graphs are not labeled or are labeled incorrectly.

or

[3] Both inequalities are graphed and shaded correctly, and at least one inequality is labeled, but no point in the solution set is stated.

[2] Appropriate work is shown, but two or more graphing errors are made, but an appropriate point in the solution set is stated.

or

[2] Appropriate work is shown, but one conceptual error is made, such as graphing the lines $y = 2x + 1$ and $y = -\dfrac{1}{3}x + 4$, but an appropriate point in the solution set is stated.

or

[2] Both inequalities are graphed and shaded correctly, but neither is labeled or they are labeled incorrectly, and no point in the solution set is stated.

or

[2] One inequality is graphed, labeled, and shaded 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 point in the solution set is stated.

or

[1] Both inequalities are graphed incorrectly, but at least one inequality is labeled, and an appropriate point in the solution set is stated.

or

[9] [OVER]

[1] The lines $y = 2x + 1$ and $y = -\dfrac{1}{3}x + 4$ are graphed appropriately, and at least one line is labeled, but no further correct work is shown.

or

[1] The coordinates of a point in the solution set are stated and shown to be correct by substituting in both inequalities, but no graphs 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.

(38)   **[4]** Hat *A* and an appropriate justification is given, and 1 color that is not green in hat *A*, 11 green in hat *B*, and none in hat *C*, and appropriate work is shown.

[3] Appropriate work is shown, but one computational error is made, but an appropriate justification is given.

or

[3] Appropriate work is shown, but no justification or an incorrect justification is given.

or

[3] Hat *A* and an appropriate justification is given, but only the correct number of marbles for hat *A* and hat *C* is found, and no further correct work is shown.

or

[3] Hat *A* and an appropriate justification is given, but a method described to create $P(G) = \dfrac{1}{2}$ in each hat involves both addition and subtraction.

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

or

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

or

[2] Hat *A* and an appropriate justification is given, but no further correct work is shown.

or

[2] One color that is not green in hat *A*, 11 green in hat *B*, and none in hat *C*, but no further correct work is shown.

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

or

[1] Hat *A*, and 1 color that is not green in hat *A* and 11 green in hat *B*, but no work and no justification are shown.

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

[OVER]

(39)   **[4]** 84 and 71, and appropriate work is shown.

[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] Correct trigonometric equations are written, but no further correct work is shown.

or

[2] Appropriate work is shown to find 84 or 71, but no further correct work is shown.

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

or

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

or

[1] 84 and 71, but no work is shown.

[0] 84 or 71, 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 Strands	Item Numbers
Number Sense and Operations	6, 7, 28, 33
Algebra	2, 3, 4, 5, 8, 9, 11, 12, 13, 14, 16, 18, 21, 22, 26, 27, 29, 30, 31, 36, 39
Geometry	10, 15, 19, 25, 35, 37
Measurement	23, 32
Statistics and Probability	1, 17, 20, 24, 34, 38

Regents Examination in Integrated Algebra

August 2010

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

The *Chart for Determining the Final Examination Score for the August 2010 Regents Examination in Integrated Algebra* will be posted on the Department's web site **http://www.emsc.nysed.gov/osa/** on **Wednesday, August 18, 2010. 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 http://www.emsc.nysed.gov/osa/teacher/evaluation.html

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
August 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	84	43	75	21	54
86	99	64	83	42	74	20	52
85	97	63	83	41	74	19	50
84	96	62	82	40	73	18	49
83	95	61	82	39	72	17	47
82	94	60	82	38	72	16	45
81	93	59	81	37	71	15	43
80	92	58	81	36	70	14	41
79	91	57	81	35	69	13	39
78	90	56	81	34	69	12	37
77	90	55	80	33	68	11	35
76	89	54	80	32	67	10	32
75	88	53	79	31	66	9	30
74	88	52	79	30	65	8	27
73	87	51	79	29	64	7	24
72	86	50	78	28	63	6	21
71	86	49	78	27	61	5	18
70	86	48	77	26	60	4	15
69	86	47	77	25	59	3	11
68	85	46	76	24	58	2	8
67	84	45	76	23	56	1	4
66	84	44	75	22	55	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.