The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Wednesday, June 12, 2013 — 1:15 to 4:15 p.m., only

Student Name:_____

School Name:_____

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

Print your name and the name of your school on the lines above.

A separate answer sheet for Part I has been provided to you. Follow the instructions from the proctor for completing the student information on your answer sheet.

This examination has four parts, with a total of 39 questions. You must answer all questions in this examination. Record 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.

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. Record your answers on your separate answer sheet. [60]

Use this space for computations.

1 Which expression represents "5 less than twice x"?

(1) $2x - 5$

(2) $5 - 2x$

(3) $2(5 - x)$

(4) $2(x - 5)$

2 Gabriella has 20 quarters, 15 dimes, 7 nickels, and 8 pennies in a jar. After taking 6 quarters out of the jar, what will be the probability of Gabriella randomly selecting a quarter from the coins left in the jar?

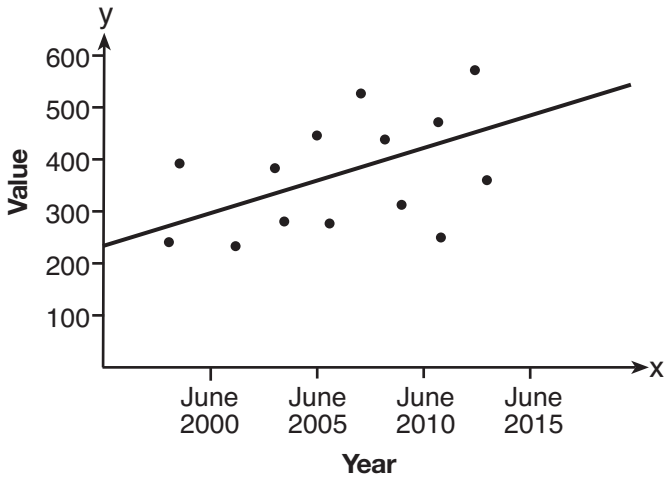
(1) $\frac{14}{44}$

(2) $\frac{30}{44}$

(3) $\frac{14}{50}$

(4) $\frac{20}{50}$

3 Based on the line of best fit drawn below, which value could be expected for the data in June 2015?



(1) 230

(2) 310

(3) 480

(4) 540

Use this space for computations.

4 If the point $(5,k)$ lies on the line represented by the equation $2x + y = 9$, the value of k is

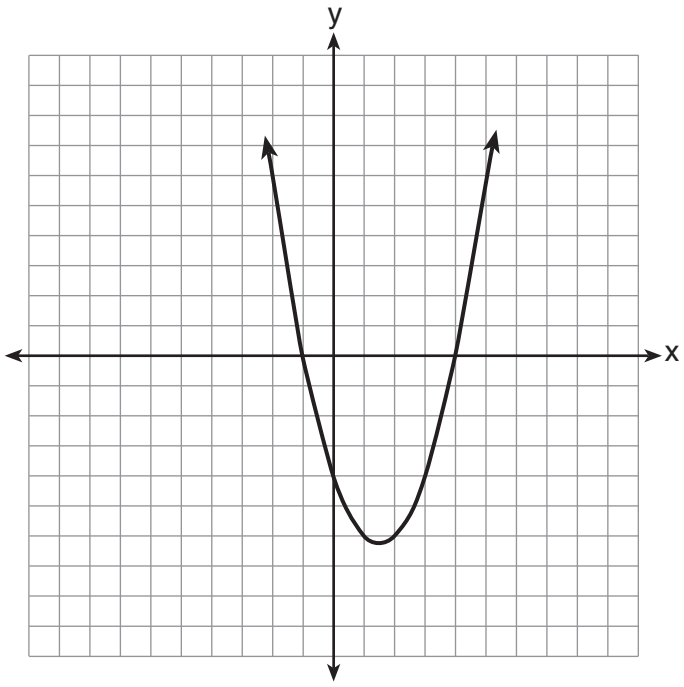
(1) 1
(2) 2
(3) -1
(4) -2

5 A soda container holds $5\frac{1}{2}$ gallons of soda. How many ounces of soda does this container hold?

1 quart = 32 ounces
1 gallon = 4 quarts

(1) 44
(2) 176
(3) 640
(4) 704

6 The roots of a quadratic equation can be found using the graph below.



What are the roots of this equation?

(1) -4, only
(2) -4 and -1
(3) -1 and 4
(4) -4, -1, and 4

Use this space for computations.

7 If the area of a rectangle is represented by $x^2 + 8x + 15$ and its length is represented by $x + 5$, which expression represents the width of the rectangle?

(1) $x + 3$

(2) $x - 3$

(3) $x^2 + 6x + 5$

(4) $x^2 + 7x + 10$

8 Which set of data describes a situation that would be classified as qualitative?

(1) the colors of the birds at the city zoo

(2) the shoe size of the zookeepers at the city zoo

(3) the heights of the giraffes at the city zoo

(4) the weights of the monkeys at the city zoo

9 The value of the expression $6! + \frac{5!(3!)}{4!} - 10$ is

(1) 50

(2) 102

(3) 740

(4) 750

10 Which interval notation represents $-3 \leq x \leq 3$?

(1) $[-3, 3]$

(2) $(-3, 3]$

(3) $[-3, 3)$

(4) $(-3, 3)$

11 The solutions of $x^2 = 16x - 28$ are

(1) -2 and -14

(2) 2 and 14

(3) -4 and -7

(4) 4 and 7

Use this space for computations.

12 If the expression $(2y^a)^4$ is equivalent to $16y^8$, what is the value of a?

(1) 12

(2) 2

(3) 32

(4) 4

13 Which table shows bivariate data?

(1)

Age (yr)	**Frequency**
14	12
15	21
16	14
17	19
18	15

(2)

Type of Car	**Average Gas Mileage** (mpg)
van	25
SUV	23
luxury	26
compact	28
pickup	22

(3)

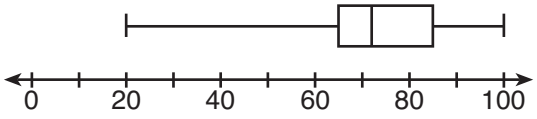
Time Spent Studying (hr)	**Test Grade** (%)
1	65
2	72
3	83
4	85
5	92

(4)

Day	**Temperature** (degrees F)
Monday	63
Tuesday	58
Wednesday	72
Thursday	74
Friday	78

Use this space for computations.

14 The box-and-whisker plot below represents the results of test scores in a math class.



What do the scores 65, 85, and 100 represent?

(1) Q_1, median, Q_3

(2) Q_1, Q_3, maximum

(3) median, Q_1, maximum

(4) minimum, median, maximum

15 The expression $\frac{x-3}{x+2}$ is undefined when the value of x is

(1) -2, only

(2) -2 and 3

(3) 3, only

(4) -3 and 2

16 If $rx - st = r$, which expression represents x?

(1) $\frac{r+st}{r}$

(2) $\frac{r}{r+st}$

(3) $\frac{r}{r-st}$

(4) $\frac{r-st}{r}$

17 What is the solution of the equation $\frac{x+2}{2} = \frac{4}{x}$?

(1) 1 and -8

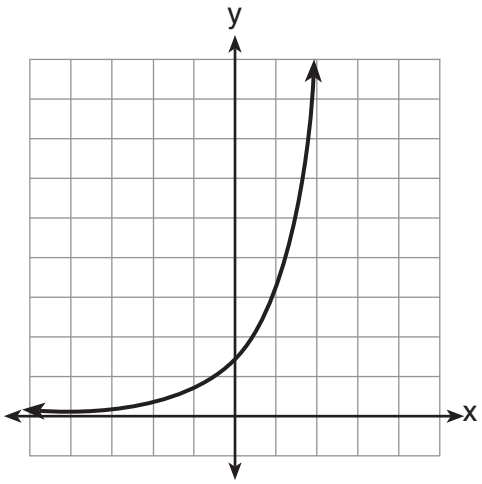
(2) 2 and -4

(3) -1 and 8

(4) -2 and 4

Use this space for computations.

18 Which type of function is graphed below?



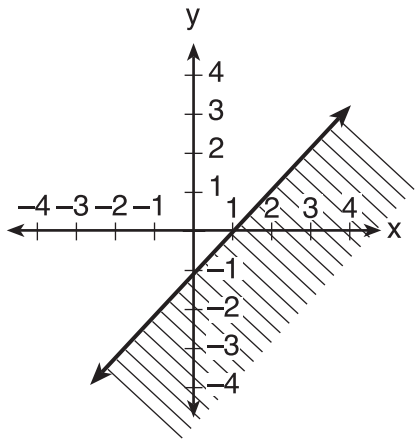
(1) linear
(2) quadratic
(3) exponential
(4) absolute value

19 What is the slope of the line represented by the equation $4x + 3y = 12$?

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

Use this space for computations.

20 The diagram below shows the graph of which inequality?



(1) $y > x - 1$
(2) $y \geq x - 1$
(3) $y < x - 1$
(4) $y \leq x - 1$

21 Carol plans to sell twice as many magazine subscriptions as Jennifer. If Carol and Jennifer need to sell at least 90 subscriptions in all, which inequality could be used to determine how many subscriptions, x, Jennifer needs to sell?

(1) $x \geq 45$
(2) $2x \geq 90$
(3) $2x - x \geq 90$
(4) $2x + x \geq 90$

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

(1) $2x^2 - 2x$
(2) $-2x^2 + 2x$
(3) $-2x^2 - 8x + 4$
(4) $2x^2 - 8x + 4$

23 Which expression represents the number of hours in w weeks and d days?

(1) $7w + 12d$
(2) $84w + 24d$
(3) $168w + 24d$
(4) $168w + 60d$

Use this space for computations.

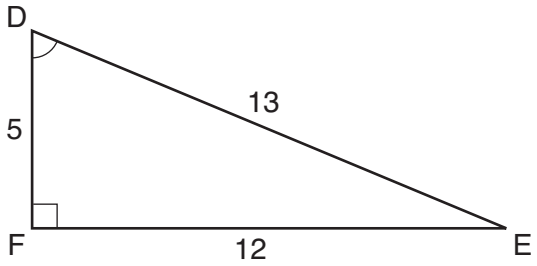
24 Given:

$R = \{1, 2, 3, 4\}$
$A = \{0, 2, 4, 6\}$
$P = \{1, 3, 5, 7\}$

What is $R \cap P$?

(1) $\{0, 1, 2, 3, 4, 5, 6, 7\}$
(2) $\{1, 2, 3, 4, 5, 7\}$
(3) $\{1, 3\}$
(4) $\{2, 4\}$

25 Which equation could be used to find the measure of angle D in the right triangle shown in the diagram below?



(1) $\cos D = \frac{12}{13}$
(2) $\cos D = \frac{13}{12}$
(3) $\sin D = \frac{5}{13}$
(4) $\sin D = \frac{12}{13}$

26 If the roots of a quadratic equation are -2 and 3, the equation can be written as

(1) $(x - 2)(x + 3) = 0$
(2) $(x + 2)(x - 3) = 0$
(3) $(x + 2)(x + 3) = 0$
(4) $(x - 2)(x - 3) = 0$

27 Which equation represents a line that is parallel to the y-axis and passes through the point (4,3)?

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

Use this space for computations.

28 There are 18 students in a class. Each day, the teacher randomly selects three students to assist in a game: a leader, a recorder, and a timekeeper. In how many possible ways can the jobs be assigned?

(1) 306
(2) 816
(3) 4896
(4) 5832

29 In triangle RST, angle R is a right angle. If $TR = 6$ and $TS = 8$, what is the length of $\overline{RS}$?

(1) 10
(2) 2
(3) $2\sqrt{7}$
(4) $7\sqrt{2}$

30 How many solutions are there for the following system of equations?

$$y = x^2 - 5x + 3$$
$$y = x - 6$$

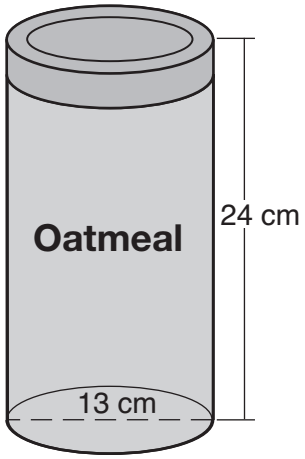
(1) 1
(2) 2
(3) 3
(4) 0

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. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [6]

31 Solve the inequality $-5(x - 7) < 15$ algebraically for x.

32 Oatmeal is packaged in a cylindrical container, as shown in the diagram below.



The diameter of the container is 13 centimeters and its height is 24 centimeters. Determine, in terms of π, the volume of the cylinder, in cubic centimeters.

33 The distance from Earth to Mars is 136,000,000 miles. A spaceship travels at 31,000 miles per hour. Determine, to the *nearest day*, how long it will take the spaceship to reach Mars.

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. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [9]

34 The menu for the high school cafeteria is shown below.

Main Course	Vegetable	Dessert	Beverage
veggie burger	corn	gelatin	milk
pizza	green beans	fruit salad	juice
tuna sandwich	carrots	yogurt	bottled water
frankfurter		cookie	
chicken tenders		ice cream cup	

Determine the number of possible meals consisting of a main course, a vegetable, a dessert, and a beverage that can be selected from the menu.

Determine how many of these meals will include chicken tenders.

If a student chooses pizza, corn or carrots, a dessert, and a beverage from the menu, determine the number of possible meals that can be selected.

35 A man standing on level ground is 1000 feet away from the base of a 350-foot-tall building. Find, to the *nearest degree*, the measure of the angle of elevation to the top of the building from the point on the ground where the man is standing.

36 Express $\sqrt{25} - 2\sqrt{3} + \sqrt{27} + 2\sqrt{9}$ in simplest radical form.

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. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [12]

37 Solve algebraically: $\frac{2}{3x} + \frac{4}{x} = \frac{7}{x+1}$

[Only an algebraic solution can receive full credit.]

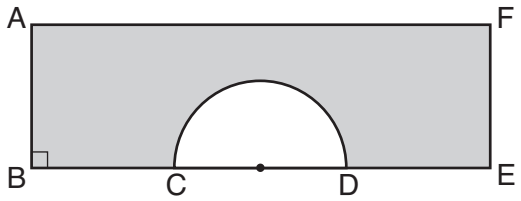
38 A jar contains five red marbles and three green marbles. A marble is drawn at random and not replaced. A second marble is then drawn from the jar.

Find the probability that the first marble is red and the second marble is green.

Find the probability that both marbles are red.

Find the probability that both marbles are the same color.

39 In the diagram below of rectangle *AFEB* and a semicircle with diameter $\overline{CD}$, $AB = 5$ inches, $AB = BC = DE = FE$, and $CD = 6$ inches. Find the area of the shaded region, to the *nearest hundredth of a square inch*.



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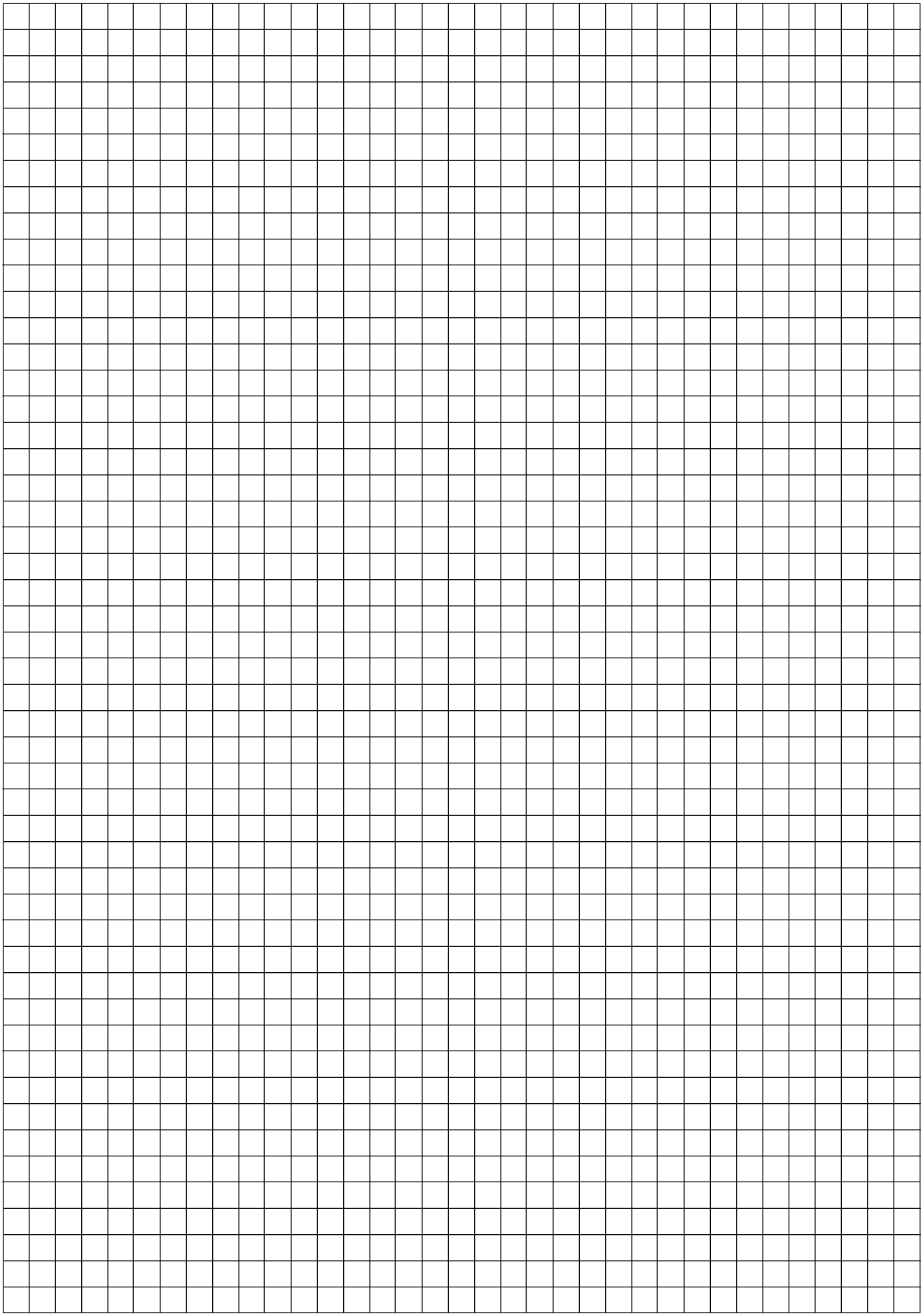
Scrap Graph Paper — This sheet will *not* be scored.



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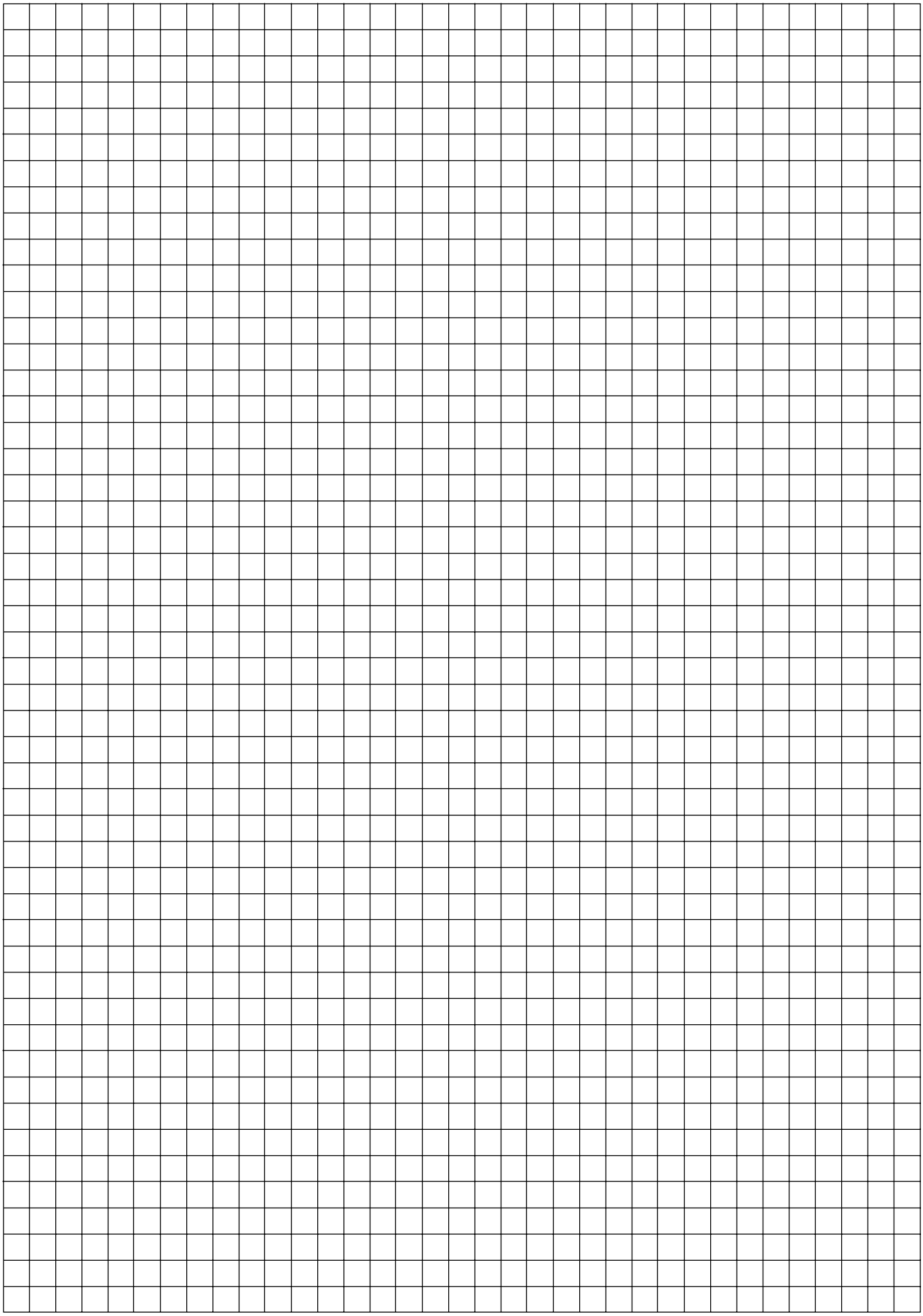

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Reference Sheet

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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FOR TEACHERS ONLY

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Wednesday, June 12, 2013 — 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 Mathematics*.

Do *not* attempt to correct the student's work by making insertions or changes of any kind. In scoring the open-ended questions, 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. No one teacher is to score more than approximately one-third of the open-ended questions on a student's paper. Teachers may not score their own students' answer papers. On the student's separate answer sheet, for each question, record the number of credits earned and the teacher's assigned rater/scorer letter.

Schools are not permitted to rescore any of the open-ended questions on this exam after each question has been rated once, regardless of the final exam score. Schools are required to ensure that the raw scores have been added correctly and that the resulting scale score has been determined accurately.

Raters should record the student's scores for all questions and the total raw score on the student's separate 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 at: http://www.p12.nysed.gov/assessment/ on Wednesday, June 12, 2013. Because scale scores corresponding to raw scores in the conversion chart may change from one administration 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 student's scale score should be entered in the box provided on the student's separate answer sheet. The scale score is the student's final examination score.

If the student's responses for the multiple-choice questions are being hand scored prior to being scanned, the scorer must be careful not to make any marks on the answer sheet except to record the scores in the designated score boxes. Marks elsewhere on the answer sheet will interfere with the accuracy of the scanning.

Part I

Allow a total of 60 credits, 2 credits for each of the following.

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

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 at: http://www.p12.nysed.gov/assessment/ and select the link "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.

Beginning in January 2013, the Department is providing supplemental scoring guidance, the "Sample Response Set," for the Regents Examination in Integrated Algebra. This guidance is not required as part of the scorer training. It is at the school's discretion to incorporate it into the scorer training or to use it as supplemental information during scoring. While not reflective of all scenarios, the sample student responses selected for the Sample Response Set illustrate how less common student responses to open-ended questions may be scored. The Sample Response Set will be available on the Department's web site at http://www.p12.nysed.gov/assessment/scoring/home-hs.html.

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 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).

Part II

For each question, use the specific criteria to award a maximum of 2 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(31) **[2]** $x > 4$, and appropriate algebraic work is shown.

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as not reversing the inequality when dividing by a negative, but an appropriate answer is given.

or

[1] $x > 4$, but a method other than algebraic is used.

or

[1] $x > 4$, 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]** 1014π, and appropriate work is shown.

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

or

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

or

[1] A correct substitution into the formula for volume is made, such as $v = \pi\left(\frac{13}{2}\right)^2 \bullet 24$, but no further correct work is shown.

or

[1] Appropriate work is shown, but the answer is only written as a correct decimal.

or

[1] 1014π, 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]** 183, and appropriate work is shown.

[1] Appropriate work is shown, but one computational or rounding error is made, but an appropriate number of days is found.

or

[1] Appropriate work is shown, but one conceptual error is made, but an appropriate number of days is found.

or

[1] Appropriate work is shown to find 4387, the length of time, in hours, but no further correct work is shown.

or

[1] Appropriate work is shown to find 744,000, the miles traveled per day, but no further correct work is shown.

or

[1] 183, 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 3 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(34) **[3]** 225, 45, and 30, and appropriate work is shown.

[2] Appropriate work is shown, but one computational error is made, but all appropriate answers are given.

or

[2] Appropriate work is shown to find two correct values.

or

[2] $5 \bullet 3 \bullet 5 \bullet 3$, $1 \bullet 3 \bullet 5 \bullet 3$, and $1 \bullet 2 \bullet 5 \bullet 3$ are written, but no further correct work is shown.

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

or

[1] Appropriate work is shown to find one correct answer.

or

[1] Appropriate work is shown, but one conceptual error is made, but all appropriate answers are given.

or

[1] 225, 45, and 30, 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]** 19, and appropriate work is shown.

[2] Appropriate work is shown, but one computational or rounding error is made, but an appropriate angle measure is found.

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as using an incorrect trigonometric ratio, but an appropriate angle measure is found.

or

[1] $\tan x = \frac{350}{1000}$ is written, but no further correct work is shown.

or

[1] An incorrectly labeled diagram is drawn, but an appropriate angle measure is found.

or

[1] A correctly labeled diagram is drawn, but no further correct work is shown.

or

[1] 19, 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]** $11 + \sqrt{3}$ and appropriate work is shown.

[2] Appropriate work is shown, but one computational or simplification error is made, but an appropriate answer is found.

[1] Appropriate work is shown, but two or more computational or simplification errors are made, but an appropriate answer is found.

or

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

or

[1] $5 - 2\sqrt{3} + 3\sqrt{3} + 6$, but no further correct work is shown.

or

[1] $11 + \sqrt{3}$ but no work is shown.

[0] The answer is expressed as a decimal.

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 4 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(37) **[4]** 2, and appropriate algebraic work is shown.

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

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

or

[2] 2, but a method other than algebraic method is used.

or

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

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

or

[1] 2, 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.

(38) **[4]** $\frac{15}{56}$, $\frac{20}{56}$, and $\frac{26}{56}$ or equivalent answers, and appropriate work is shown.

[3] Appropriate work is shown, but one computational error is made, but appropriate probabilities are found.

or

[3] Appropriate work is shown to find $\frac{26}{56}$ or an equivalent answer and either $\frac{15}{56}$ or $\frac{20}{56}$ or an equivalent answer, but no further correct work is shown.

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

or

[2] Appropriate work is shown, but one conceptual error is made, but appropriate probabilities are found.

or

[2] Appropriate work is shown to find $\frac{15}{56}$ and $\frac{20}{56}$ or equivalent answers, but no further correct work is shown.

or

[2] Appropriate work is shown to find $\frac{26}{56}$ or an equivalent answer, but no further correct work is shown.

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

or

[1] Appropriate work is shown to find $\frac{15}{56}$ or $\frac{20}{56}$ or an equivalent answer, but no further correct work is shown.

or

[1] $\frac{15}{56}$, $\frac{20}{56}$, and $\frac{26}{56}$ or equivalent answers, 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.

(39) **[4]** 65.86, an appropriate work is shown.

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

or

[3] Appropriate work is shown, but the area is represented in terms of π.

or

[3] The area of the rectangle is found as 80 and the area of the semicircle is found as 4.5π or 14.137 or 14.14, but they are not subtracted.

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

or

[2] Appropriate work is shown, but one conceptual error is made, such as using 6 as the radius or subtracting 9π, but an appropriate area is found.

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

or

[1] Appropriate work is shown to find either the area of the rectangle or the area of the semicircle, but no further correct work is shown.

or

[1] 65.86, 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.

Map to Core Curriculum

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

Regents Examination in Integrated Algebra
June 2013
Chart for Converting Total Test Raw Scores to Final Examination Scores (Scale Scores)

The *Chart for Determining the Final Examination Score for the June 2013 Regents Examination in Integrated Algebra* will be posted on the Department's web site at: http://www.p12.nysed.gov/assessment/ on Wednesday, June 12, 2013. Conversion charts provided for previous administrations of the Regents Examination in Integrated Algebra 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.forms2.nysed.gov/emsc/osa/exameval/reexameval.cfm.

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.

Regents Examination in Integrated Algebra – June 2013

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	**76**	21	**54**
86	**98**	64	**83**	42	**75**	20	**52**
85	**97**	63	**83**	41	**75**	19	**51**
84	**95**	62	**83**	40	**74**	18	**49**
83	**94**	61	**83**	39	**73**	17	**47**
82	**93**	60	**82**	38	**72**	16	**45**
81	**92**	59	**82**	37	**72**	15	**43**
80	**91**	58	**82**	36	**71**	14	**41**
79	**90**	57	**81**	35	**70**	13	**39**
78	**90**	56	**81**	34	**69**	12	**37**
77	**89**	55	**81**	33	**68**	11	**35**
76	**88**	54	**80**	32	**67**	10	**33**
75	**88**	53	**80**	31	**66**	9	**30**
74	**87**	52	**80**	30	**65**	8	**27**
73	**87**	51	**79**	29	**64**	7	**25**
72	**87**	50	**79**	28	**63**	6	**22**
71	**86**	49	**79**	27	**62**	5	**19**
70	**86**	48	**78**	26	**61**	4	**15**
69	**86**	47	**78**	25	**59**	3	**12**
68	**85**	46	**77**	24	**58**	2	**8**
67	**84**	45	**77**	23	**57**	1	**5**
66	**84**	44	**76**	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.

Schools are not permitted to rescore any of the open-ended questions on this exam after each question has been rated once, regardless of the final exam score. Schools are required to ensure that the raw scores have been added correctly and that the resulting scale score has been determined accurately.

Because scale scores corresponding to raw scores in the conversion chart change from one administration 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.