

The University of the State of New York
REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Wednesday, January 26, 2011— 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 Given:

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

$$Y = \{2, 3, 4, 5\}$$

$$Z = \{3, 4, 5, 6\}$$

What is the intersection of sets X , Y , and Z ?

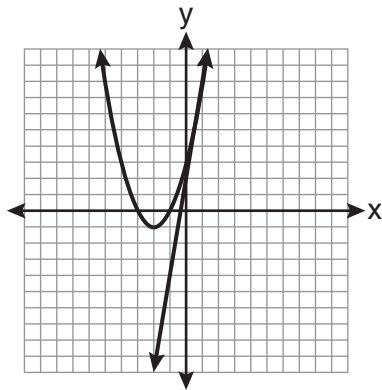
(1) $\{3, 4\}$

(3) $\{3, 4, 5\}$

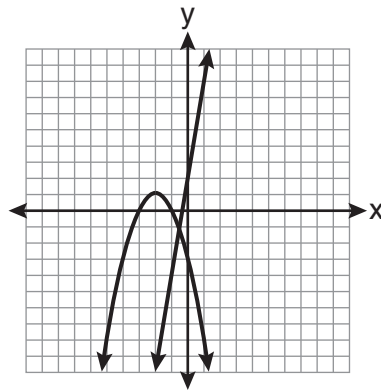
(2) $\{2, 3, 4\}$

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

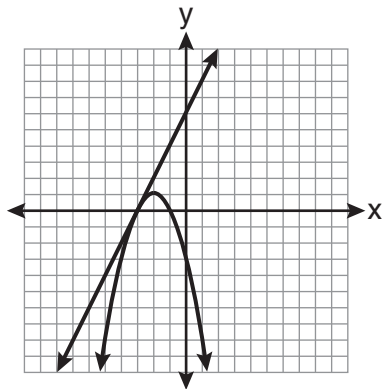
2 Which graph could be used to find the solution of the system of equations $y = 2x + 6$ and $y = x^2 + 4x + 3$?



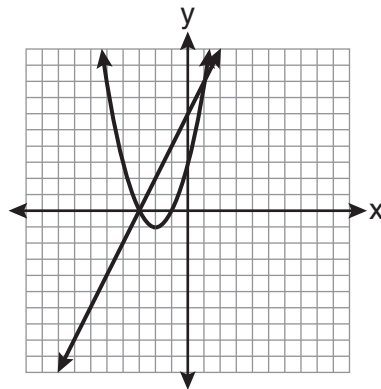
(1)



(3)



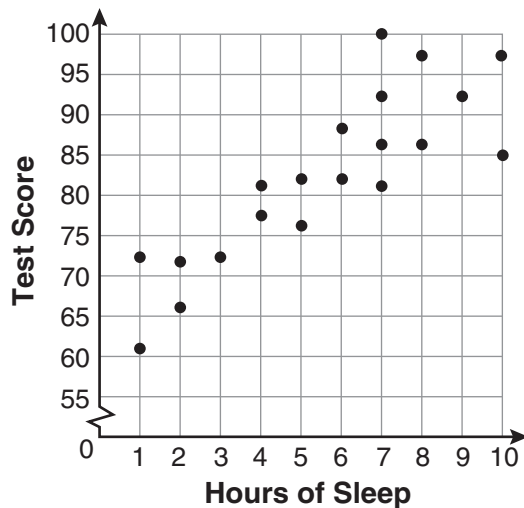
(2)



(4)

Use this space for computations.

- 3 What is the relationship between the independent and dependent variables in the scatter plot shown below?



- (1) undefined correlation (3) positive correlation
(2) negative correlation (4) no correlation
- 4 Tim ate four more cookies than Alice. Bob ate twice as many cookies as Tim. If x represents the number of cookies Alice ate, which expression represents the number of cookies Bob ate?
- (1) $2 + (x + 4)$ (3) $2(x + 4)$
(2) $2x + 4$ (4) $4(x + 2)$
- 5 Which relation is a function?
- (1) $\{(\frac{3}{4}, 0), (0, 1), (\frac{3}{4}, 2)\}$ (3) $\{(-1, 4), (0, 5), (0, 4)\}$
(2) $\{(-2, 2), (-\frac{1}{2}, 1), (-2, 4)\}$ (4) $\{(2, 1), (4, 3), (6, 5)\}$

Use this space for computations.

6 What is the value of x in the equation $2(x - 4) = 4(2x + 1)$?

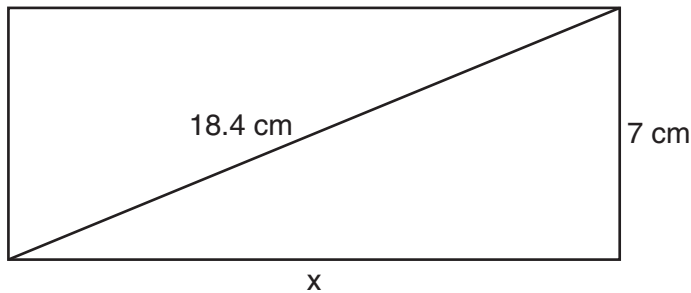
(1) -2

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

(2) 2

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

7 The rectangle shown below has a diagonal of 18.4 cm and a width of 7 cm.



To the *nearest centimeter*, what is the length, x , of the rectangle?

(1) 11

(3) 20

(2) 17

(4) 25

8 When $a^3 - 4a$ is factored completely, the result is

(1) $(a - 2)(a + 2)$

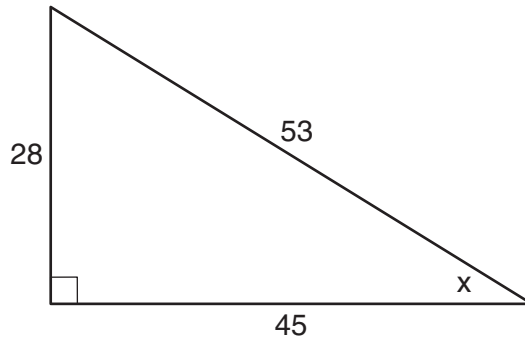
(3) $a^2(a - 4)$

(2) $a(a - 2)(a + 2)$

(4) $a(a - 2)^2$

9 Which ratio represents $\sin x$ in the right triangle shown below?

Use this space for
computations.



(1) $\frac{28}{53}$

(3) $\frac{45}{53}$

(2) $\frac{28}{45}$

(4) $\frac{53}{28}$

10 What is the value of the expression $(a^3 + b^0)^2$ when $a = -2$ and $b = 4$?

(1) 64

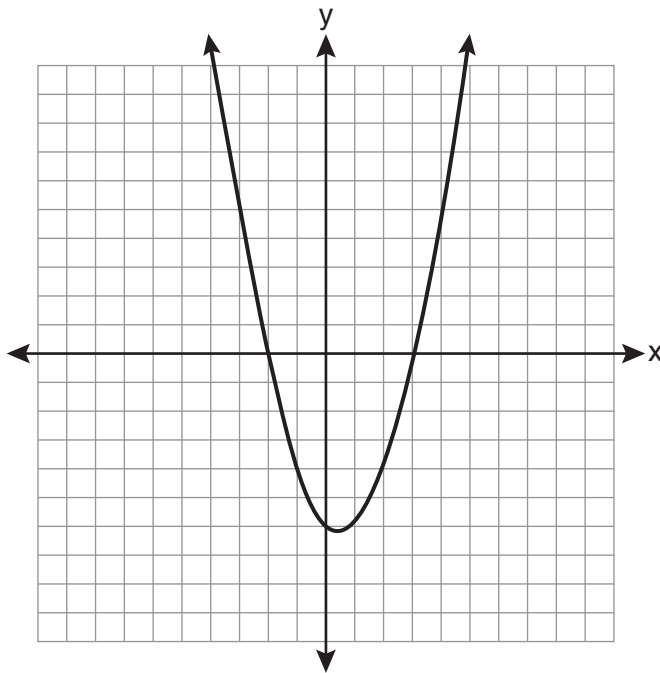
(3) -49

(2) 49

(4) -64

**Use this space for
computations.**

- 11** A student correctly graphed the parabola shown below to solve a given quadratic equation.



What are the roots of the quadratic equation associated with this graph?

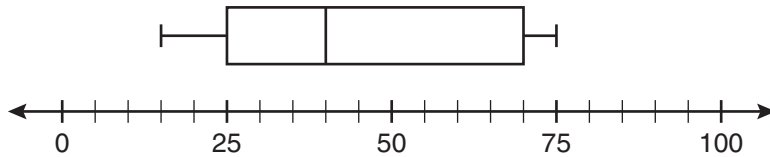
- (1) -6 and 3 (3) -3 and 2
(2) -6 and 0 (4) -2 and 3

- 12** Which value of x is the solution of the equation $\frac{2}{3}x + \frac{1}{2} = \frac{5}{6}$?

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

Use this space for
computations.

- 13 What is the range of the data represented in the box-and-whisker plot shown below?



- (1) 40
(2) 45
(3) 60
(4) 100
- 14 Which equation illustrates the associative property?

- (1) $x + y + z = x + y + z$
(2) $x(y + z) = xy + xz$
(3) $x + y + z = z + y + x$
(4) $(x + y) + z = x + (y + z)$

- 15 Josh and Mae work at a concession stand. They each earn \$8 per hour. Josh worked three hours more than Mae. If Josh and Mae earned a total of \$120, how many hours did Josh work?

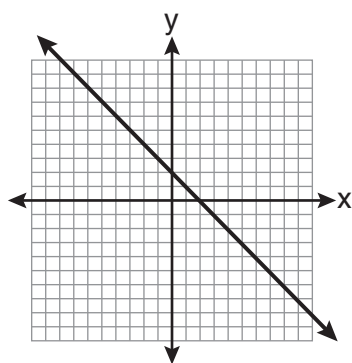
- (1) 6
(2) 9
(3) 12
(4) 15

Use this space for
computations.

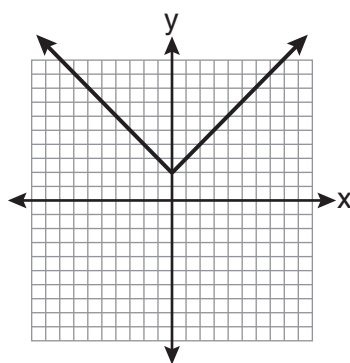
16 Which data set describes a situation that could be classified as quantitative?

- (1) the phone numbers in a telephone book
- (2) the addresses for students at Hopkins High School
- (3) the zip codes of residents in the city of Buffalo, New York
- (4) the time it takes each of Mr. Harper's students to complete a test

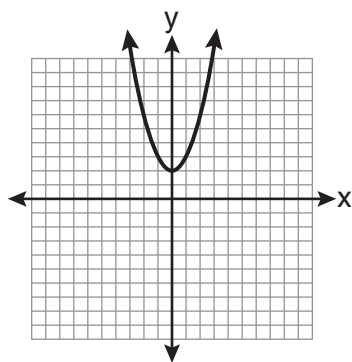
17 Which is the graph of $y = |x| + 2$?



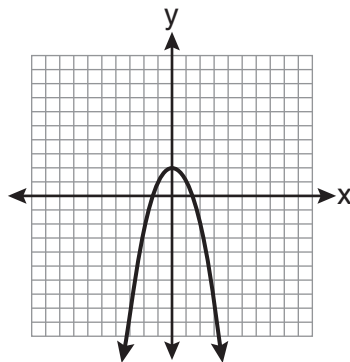
(1)



(3)



(2)



(4)

**Use this space for
computations.**

18 Sam's grades on eleven chemistry tests were 90, 85, 76, 63, 94, 89, 81, 76, 78, 69, and 97. Which statement is true about the measures of central tendency?

- (1) mean $>$ mode (3) mode $>$ median
(2) mean $<$ median (4) median = mean

19 Which interval notation represents the set of all real numbers greater than 2 and less than or equal to 20?

- (1) (2,20) (3) [2,20)
(2) (2,20] (4) [2,20]

20 What is the sum of $\frac{3}{2x}$ and $\frac{7}{4x}$?

- (1) $\frac{21}{8x^2}$ (3) $\frac{10}{6x}$
(2) $\frac{13}{4x}$ (4) $\frac{13}{8x}$

21 What is $3\sqrt{2} + \sqrt{8}$ expressed in simplest radical form?

- (1) $3\sqrt{10}$ (3) $5\sqrt{2}$
(2) $3\sqrt{16}$ (4) $7\sqrt{2}$

Use this space for
computations.

22 What is the slope of the line whose equation is $3x - 7y = 9$?

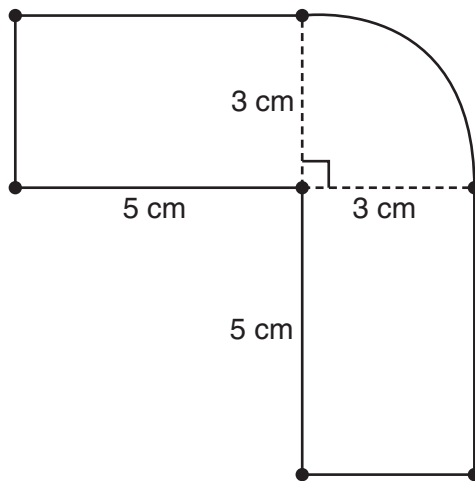
(1) $-\frac{3}{7}$

(3) $-\frac{7}{3}$

(2) $\frac{3}{7}$

(4) $\frac{7}{3}$

23 The figure shown below is composed of two rectangles and a quarter circle.



What is the area of this figure, to the *nearest square centimeter*?

(1) 33

(3) 44

(2) 37

(4) 58

24 The expression $\frac{(10w^3)^2}{5w}$ is equivalent to

(1) $2w^5$

(3) $20w^5$

(2) $2w^8$

(4) $20w^8$

Use this space for
computations.

25 If $\frac{ey}{n} + k = t$, what is y in terms of e , n , k , and t ?

(1) $y = \frac{tn + k}{e}$ (3) $y = \frac{n(t + k)}{e}$

(2) $y = \frac{tn - k}{e}$ (4) $y = \frac{n(t - k)}{e}$

26 What is the result when $2x^2 + 3xy - 6$ is subtracted from $x^2 - 7xy + 2$?

(1) $-x^2 - 10xy + 8$ (3) $-x^2 - 4xy - 4$

(2) $x^2 + 10xy - 8$ (4) $x^2 - 4xy - 4$

27 What is an equation of the axis of symmetry of the parabola represented by $y = -x^2 + 6x - 4$?

(1) $x = 3$ (3) $x = 6$

(2) $y = 3$ (4) $y = 6$

28 Which equation has roots of -3 and 5 ?

(1) $x^2 + 2x - 15 = 0$ (3) $x^2 + 2x + 15 = 0$

(2) $x^2 - 2x - 15 = 0$ (4) $x^2 - 2x + 15 = 0$

**Use this space for
computations.**

- 29 A spinner that is equally divided into eight numbered sectors is spun 20 times. The table below shows the number of times the arrow landed in each numbered sector.

Spinner Sector	Number of Times
1	2
2	3
3	2
4	3
5	4
6	2
7	3
8	1

Based on the table, what is the empirical probability that the spinner will land on a prime number on the next spin?

- (1) $\frac{9}{20}$ (3) $\frac{12}{20}$
 (2) $\frac{11}{20}$ (4) $\frac{14}{20}$

- 30 Which expression represents $\frac{x^2 - x - 6}{x^2 - 5x + 6}$ in simplest form?

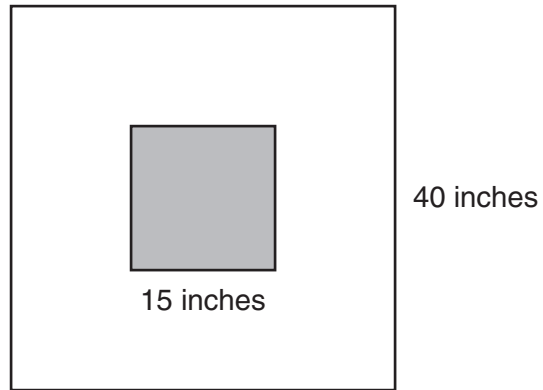
- (1) $\frac{x + 2}{x - 2}$ (3) $\frac{1}{5}$
 (2) $\frac{-x - 6}{-5x + 6}$ (4) -1

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]

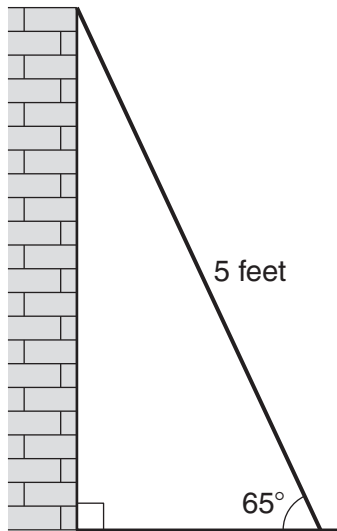
- 31 Roberta needs ribbon for a craft project. The ribbon sells for \$3.75 per yard. Find the cost, in dollars, for 48 inches of the ribbon.

- 32** The square dart board shown below has a side that measures 40 inches. The shaded portion in the center is a square whose side is 15 inches. A dart thrown at the board is equally likely to land on any point on the dartboard.



Find the probability that a dart hitting the board will *not* land in the shaded area.

- 33** As shown in the diagram below, a ladder 5 feet long leans against a wall and makes an angle of 65° with the ground. Find, to the *nearest tenth of a foot*, the distance from the wall to the base of the ladder.



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 A line having a slope of $\frac{3}{4}$ passes through the point $(-8,4)$.
Write the equation of this line in slope-intercept form.

35 The test scores for 18 students in Ms. Mosher's class are listed below:

86, 81, 79, 71, 58, 87, 52, 71, 87, 87, 93, 64, 94, 81, 76, 98, 94, 68

Complete the frequency table below.

Interval	Tally	Frequency
51–60		
61–70		
71–80		
81–90		
91–100		

Draw and label a frequency histogram on the grid below.



36 Solve algebraically for x : $\frac{x+2}{6} = \frac{3}{x-1}$

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]

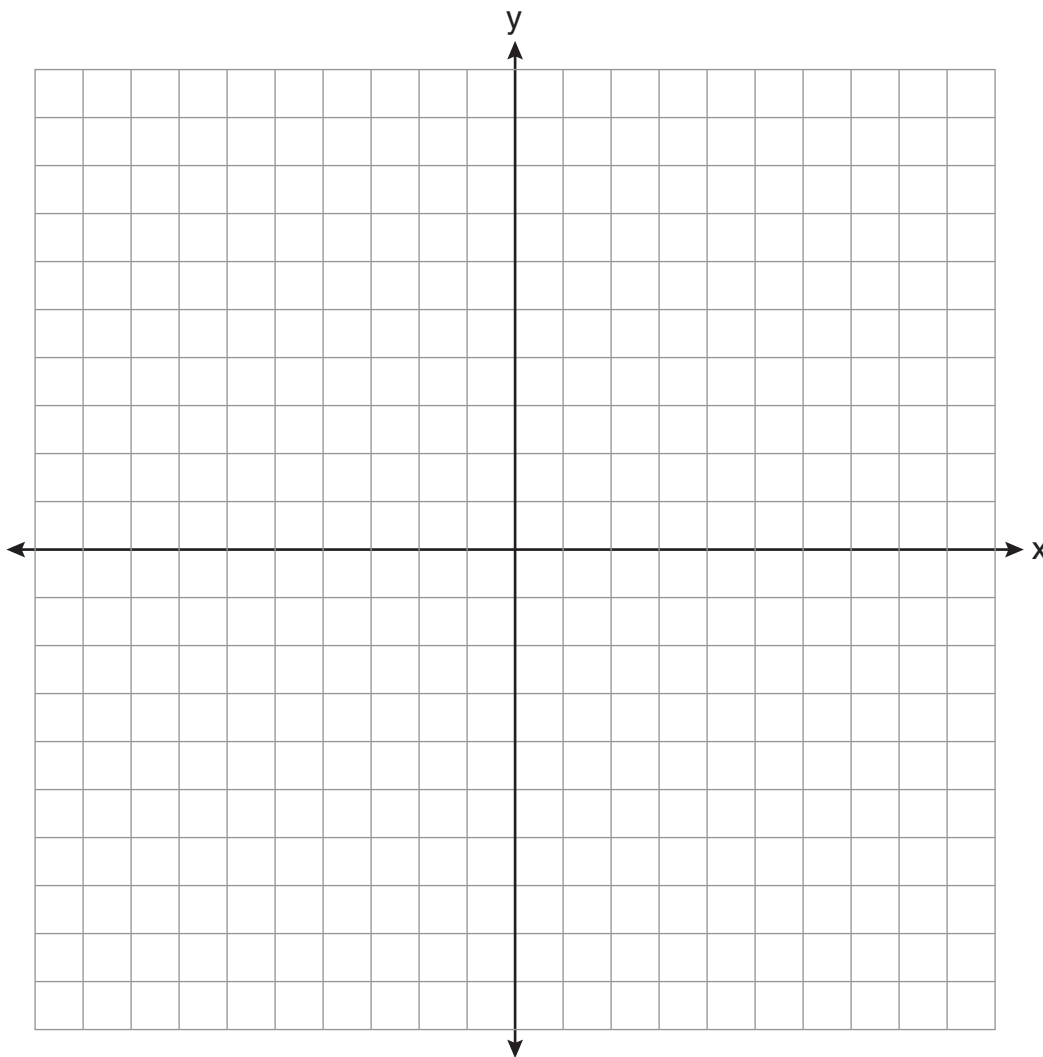
- 37 An oil company distributes oil in a metal can shaped like a cylinder that has an actual radius of 5.1 cm and a height of 15.1 cm. A worker incorrectly measured the radius as 5 cm and the height as 15 cm. Determine the relative error in calculating the surface area, to the *nearest thousandth*.

38 The Booster Club raised \$30,000 for a sports fund. No more money will be placed into the fund. Each year the fund will decrease by 5%. Determine the amount of money, to the *nearest cent*, that will be left in the sports fund after 4 years.

39 Graph the following system of inequalities on the set of axes shown below and label the solution set S .

$$y > -x + 2$$

$$y \leq \frac{2}{3}x + 5$$



Reference Sheet

Trigonometric Ratios

$$\sin A = \frac{\textit{opposite}}{\textit{hypotenuse}}$$

$$\cos A = \frac{\textit{adjacent}}{\textit{hypotenuse}}$$

$$\tan A = \frac{\textit{opposite}}{\textit{adjacent}}$$

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

$$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

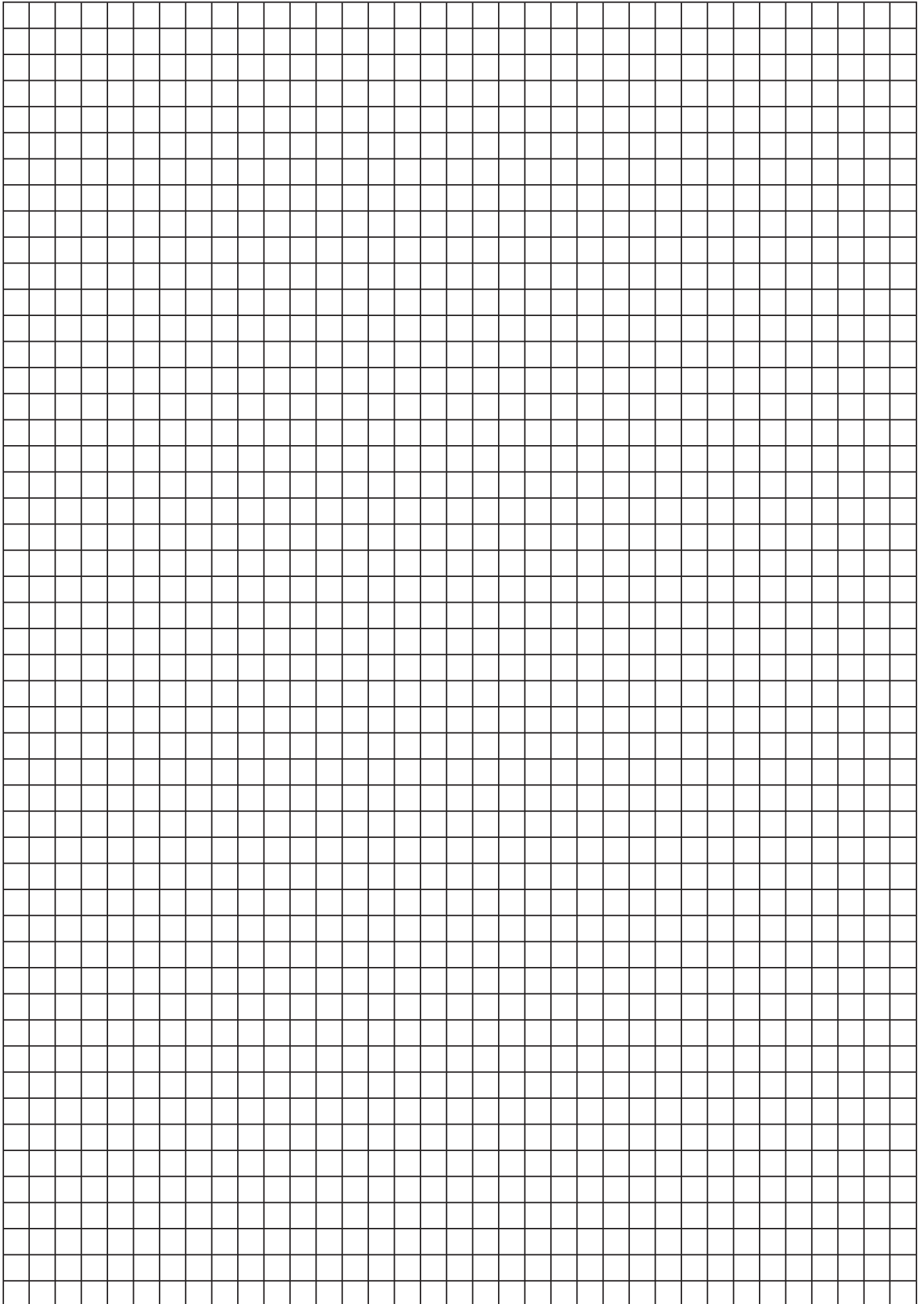
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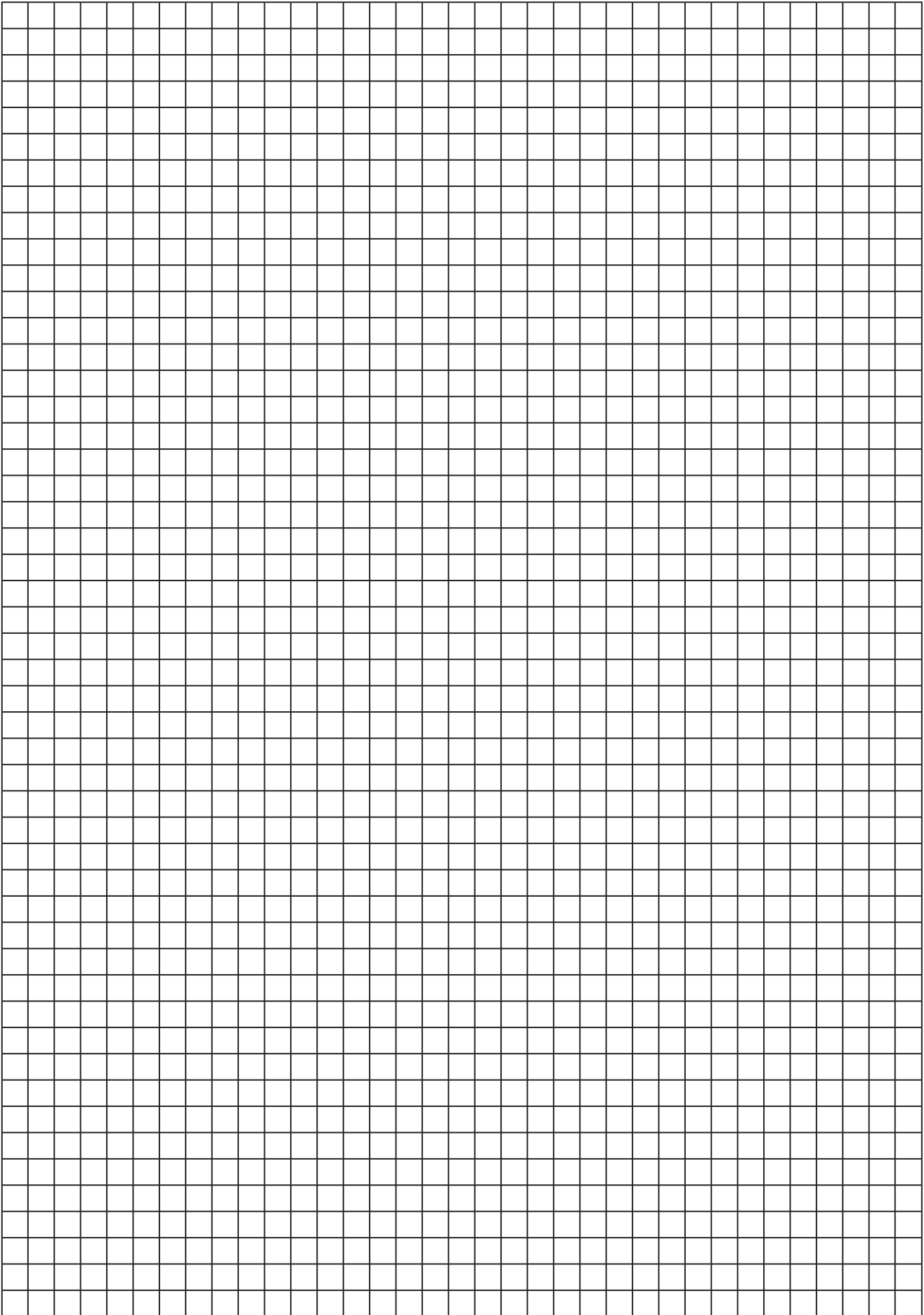
Scrap Graph Paper — This sheet will *not* be scored.

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



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The University of the State of New York
REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Wednesday, January 26, 2011— 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.

Signature

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		

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

--

Total Raw Score

Checked by

Scale Score
(from conversion chart)

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FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Wednesday, January 26, 2011 — 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*.

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.p12.nysed.gov/osa/> on Wednesday, January 26, 2011. 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) 1	(17) 3	(25) 4
(2) 4	(10) 2	(18) 1	(26) 1
(3) 3	(11) 4	(19) 2	(27) 1
(4) 3	(12) 1	(20) 2	(28) 2
(5) 4	(13) 3	(21) 3	(29) 3
(6) 1	(14) 4	(22) 2	(30) 1
(7) 2	(15) 2	(23) 2	
(8) 2	(16) 4	(24) 3	

Updated information regarding the rating of this examination may be posted on the New York State Education Department's web site during the rating period. Check this web site <http://www.p12.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 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 two credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(31) [2] 5, 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] 5, but no work is shown.

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

(32) [2] $\frac{1375}{1600}$ or an equivalent answer, and appropriate work is shown.

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

or

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

or

[1] Appropriate work is shown, but $\frac{225}{1600}$ (the complement of the correct answer) or an equivalent answer is found.

or

[1] Appropriate work is shown to find 1375, the area of the unshaded portion, but no further correct work is shown.

or

[1] $\frac{1375}{1600}$ or an equivalent answer, but no work is shown.

[0] The areas of the squares are calculated correctly, but no further correct 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.

(33) [2] 2.1, 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] $\cos 65 = \frac{x}{5}$ or an equivalent equation is written, but no further correct work is shown.

or

[1] 2.1, but no work is shown.

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

Part III

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

(34) [3] $y = \frac{3}{4}x + 10$, and appropriate work is shown.

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

[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] $y - 4 = \frac{3}{4}(x + 8)$ is written, but no further correct work is shown.

or

[1] $y = \frac{3}{4}x + 10$, 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] The frequency table is completed correctly, and a correct frequency histogram is drawn with the axes labeled.
- [2] The frequency table is completed correctly, but one graphing or labeling error is made in the frequency histogram.
- or*
- [2] The frequency table is completed incorrectly, but an appropriate frequency histogram is drawn and labeled.
- [1] The frequency table is completed correctly, but two or more graphing or labeling errors are made in the frequency histogram.
- or*
- [1] Appropriate work is shown, but one conceptual error is made.
- or*
- [1] The frequency table is completed incorrectly, and one graphing or labeling error is made in the frequency histogram.
- or*
- [1] The frequency table is completed correctly, but no further correct work is shown.
- [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

- (36) [3] 4 and -5 , 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, but only one solution is found.
- [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] An incorrect quadratic equation of equal difficulty is solved appropriately.
- or*
- [1] $x^2 + x - 20 = 0$ or an equivalent equation is written, but no further correct work is shown.
- or*
- [1] 4 and -5 , but a method other than algebraic is used.
- or*
- [1] 4 and -5 , but no work is shown.
- [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.
-

Part IV

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

(37) [4] 0.029, and appropriate work is shown.

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

or

[3] Appropriate work is shown to find $\frac{647.294 - 628.319}{647.294}$ or an equivalent expression, but no further correct work is shown.

or

[3] Appropriate work is shown, but the answer is given as a percent.

[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 dividing by 628.319.

or

[2] Appropriate work is shown to find both surface areas, 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] Appropriate work is shown to find one surface area, but no further correct work is shown.

or

[1] 0.029, 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.

Because different models and brands of graphing calculators may yield slightly different results, an allowance is being provided for Question 38 only of the January 2011 Regents Examination in Integrated Algebra.

(38) [4] 24,435.19 or 24,435.20, 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 exponential growth formula.

or

[2] $A = 30,000(1 - 0.05)^4$ or an equivalent equation is written, 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] 24,435.19 or 24,435.20, 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] Both inequalities are graphed and shaded correctly, and at least one is labeled, and the solution set is labeled S .
- [3] Appropriate work is shown, but one graphing error is made, such as drawing a solid line for $y > -x + 2$ or shading incorrectly, but an appropriate solution set is labeled S .
- or*
- [3] Both inequalities are graphed and shaded correctly, and the solution set is labeled S , but the graphs are not labeled or are labeled incorrectly.
- or*
- [3] Both inequalities are graphed and shaded correctly, and at least one is labeled, but the solution set is not labeled or is labeled incorrectly.
- [2] Appropriate work is shown, but two or more graphing errors are made, but an appropriate solution set is labeled S .
- or*
- [2] Appropriate work is shown, but one conceptual error is made, such as graphing the lines $y = -x + 2$ and $y = \frac{2}{3}x + 5$, but at least one is labeled, and the point of intersection is labeled S .
- or*
- [2] One of the inequalities is graphed, shaded, and labeled 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 solution set is labeled S .
- or*
- [1] The lines $y = -x + 2$ and $y = \frac{2}{3}x + 5$ are graphed correctly, and at least one is labeled, but no further correct work is shown.
- or*
- [1] A point in the solution set is identified and shown to be correct by checking 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.
-

Map to Core Curriculum

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

Regents Examination in Integrated Algebra

January 2011

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

The *Chart for Determining the Final Examination Score for the January 2011 Regents Examination in Integrated Algebra* will be posted on the Department's web site <http://www.p12.nysed.gov/osa/> on Wednesday, January 26, 2011. 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.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 – January 2011

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	98	64	83	42	75	20	52
85	97	63	83	41	74	19	51
84	96	62	83	40	74	18	49
83	95	61	82	39	73	17	47
82	94	60	82	38	72	16	45
81	93	59	82	37	72	15	43
80	92	58	81	36	71	14	41
79	91	57	81	35	70	13	39
78	90	56	81	34	69	12	37
77	89	55	80	33	68	11	35
76	89	54	80	32	67	10	32
75	88	53	80	31	66	9	30
74	88	52	79	30	65	8	27
73	87	51	79	29	64	7	24
72	87	50	79	28	63	6	21
71	86	49	78	27	62	5	18
70	86	48	78	26	61	4	15
69	86	47	77	25	60	3	12
68	85	46	77	24	58	2	8
67	84	45	76	23	57	1	4
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.

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.