The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Thursday, August 16, 2012 — 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.

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.

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.

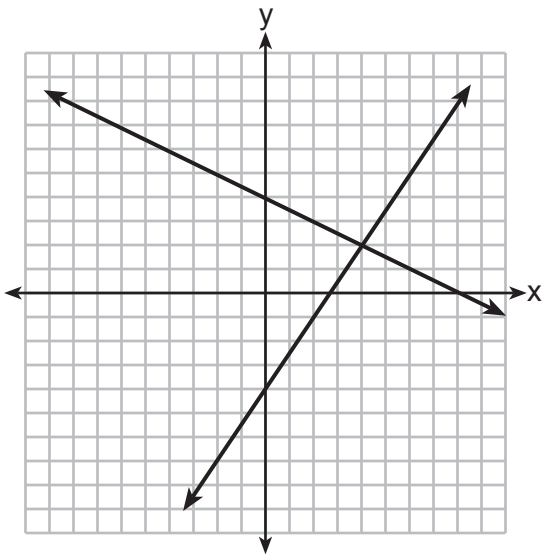
DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.

Part I

Answer all 30 questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. Record your answers on your separate answer sheet. [60]

Use this space for computations.

1 A system of equations is graphed on the set of axes below.



The solution of this system is

(1) (0,4)
(2) (2,4)
(3) (4,2)
(4) (8,0)

2 A cell phone can receive 120 messages per minute. At this rate, how many messages can the phone receive in 150 seconds?

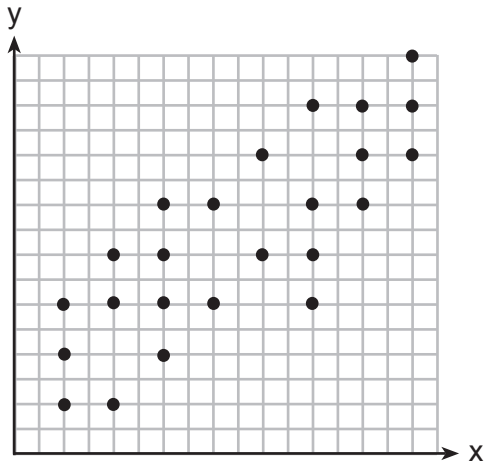
(1) 48
(2) 75
(3) 300
(4) 18,000

3 The value of y in the equation $0.06y + 200 = 0.03y + 350$ is

(1) 500
(2) $1{,}666.\overline{6}$
(3) 5,000
(4) $18{,}333.\overline{3}$

Use this space for computations.

4 The scatter plot shown below represents a relationship between x and y.



This type of relationship is

(1) a positive correlation
(2) a negative correlation
(3) a zero correlation
(4) not able to be determined

5 The sum of $3x^2 + 5x - 6$ and $-x^2 + 3x + 9$ is

(1) $2x^2 + 8x - 15$
(2) $2x^2 + 8x + 3$
(3) $2x^4 + 8x^2 + 3$
(4) $4x^2 + 2x - 15$

6 Jason's part-time job pays him \$155 a week. If he has already saved \$375, what is the minimum number of weeks he needs to work in order to have enough money to buy a dirt bike for \$900?

(1) 8
(2) 9
(3) 3
(4) 4

Use this space for computations.

7 The expression $9a^2 - 64b^2$ is equivalent to

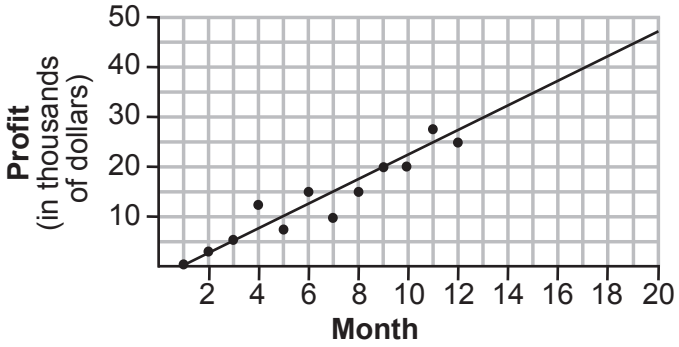
(1) $(9a - 8b)(a + 8b)$

(2) $(9a - 8b)(a - 8b)$

(3) $(3a - 8b)(3a + 8b)$

(4) $(3a - 8b)(3a - 8b)$

8 The scatter plot below shows the profit, by month, for a new company for the first year of operation. Kate drew a line of best fit, as shown in the diagram.



Using this line, what is the best estimate for profit in the 18th month?

(1) \$35,000

(2) \$37,750

(3) \$42,500

(4) \$45,000

9 Which statement illustrates the additive identity property?

(1) $6 + 0 = 6$

(2) $-6 + 6 = 0$

(3) $4(6 + 3) = 4(6) + 4(3)$

(4) $(4 + 6) + 3 = 4 + (6 + 3)$

Use this space for computations.

10 Peter walked 8,900 feet from home to school.

1 mile = 5,280 feet

How far, to the *nearest tenth of a mile*, did he walk?

(1) 0.5
(2) 0.6
(3) 1.6
(4) 1.7

11 Is the equation $A = 21000(1 - 0.12)^t$ a model of exponential growth or exponential decay, and what is the rate (percent) of change per time period?

(1) exponential growth and 12%
(2) exponential growth and 88%
(3) exponential decay and 12%
(4) exponential decay and 88%

12 The length of a rectangle is 15 and its width is w. The perimeter of the rectangle is, *at most*, 50. Which inequality can be used to find the longest possible width?

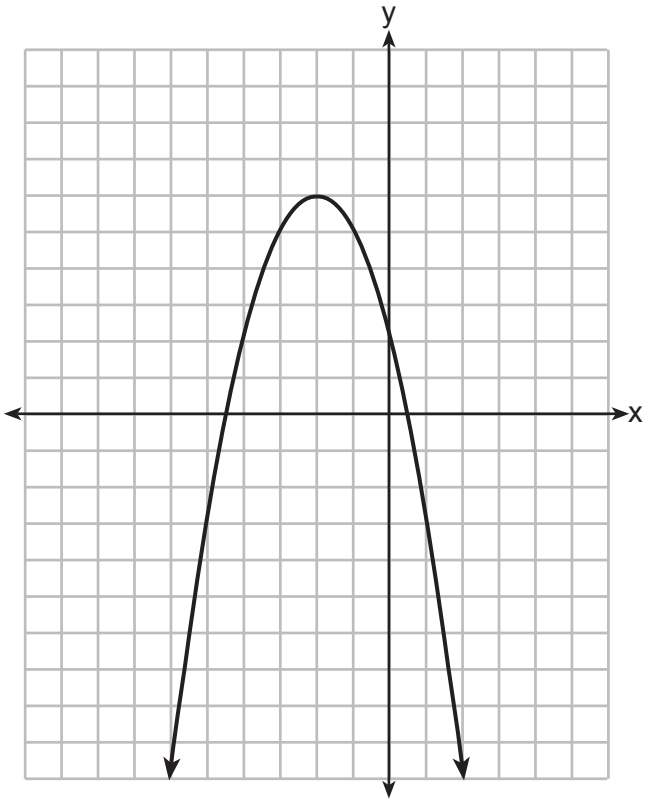
(1) $30 + 2w < 50$
(2) $30 + 2w \leq 50$
(3) $30 + 2w > 50$
(4) $30 + 2w \geq 50$

13 Craig sees an advertisement for a car in a newspaper. Which information would *not* be classified as quantitative?

(1) the cost of the car
(2) the car's mileage
(3) the model of the car
(4) the weight of the car

Use this space for computations.

14 What are the coordinates of the vertex and the equation of the axis of symmetry of the parabola shown in the graph below?



(1) (0,2) and $y = 2$

(2) (0,2) and $x = 2$

(3) $(-2,6)$ and $y = -2$

(4) $(-2,6)$ and $x = -2$

15 A correct translation of "six less than twice the value of x" is

(1) $2x < 6$

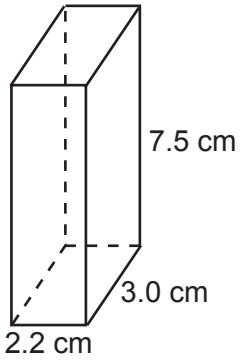
(2) $2x - 6$

(3) $6 < 2x$

(4) $6 - 2x$

Use this space for computations.

16 The rectangular prism shown below has a length of 3.0 cm, a width of 2.2 cm, and a height of 7.5 cm.



What is the surface area, in square centimeters?

(1) 45.6
(2) 49.5
(3) 78.0
(4) 91.2

17 Which set of coordinates is a solution of the equation $2x - y = 11$?

(1) $(-6,-1)$
(2) $(-1,9)$
(3) $(0,11)$
(4) $(2,-7)$

18 The graph of a parabola is represented by the equation $y = ax^2$ where a is a positive integer. If a is multiplied by 2, the new parabola will become

(1) narrower and open downward
(2) narrower and open upward
(3) wider and open downward
(4) wider and open upward

Use this space for computations.

19 Which equation represents a line that has a slope of $\frac{3}{4}$ and passes through the point (2,1)?

(1) $3y = 4x - 5$

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

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

(4) $4y = 3x + 5$

20 What is the value of $\left|\frac{4(-6) + 18}{4!}\right|$?

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

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

(3) 12

(4) -12

21 Given:

$A = \{1, 3, 5, 7, 9\}$

$B = \{2, 4, 6, 8, 10\}$

$C = \{2, 3, 5, 7\}$

$D = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

Which statement is *false*?

(1) $A \cup B \cup C = D$

(2) $A \cap B \cap C = \{\ \}$

(3) $A \cup C = \{1, 2, 3, 5, 7\}$

(4) $A \cap C = \{3, 5, 7\}$

22 Which expression is equivalent to $\frac{2x^6 - 18x^4 + 2x^2}{2x^2}$?

(1) $x^3 - 9x^2$

(2) $x^4 - 9x^2$

(3) $x^3 - 9x^2 + 1$

(4) $x^4 - 9x^2 + 1$

Use this space for computations.

23 In a given linear equation, the value of the independent variable decreases at a constant rate while the value of the dependent variable increases at a constant rate. The slope of this line is

(1) positive
(2) negative
(3) zero
(4) undefined

24 The volume of a cylindrical can is 32π cubic inches. If the height of the can is 2 inches, what is its radius, in inches?

(1) 8
(2) 2
(3) 16
(4) 4

25 The expression $\frac{14 + x}{x^2 - 4}$ is undefined when x is

(1) -14, only
(2) 2, only
(3) -2 or 2
(4) -14, -2, or 2

26 What is the solution of $\frac{2}{x + 1} = \frac{x + 1}{2}$?

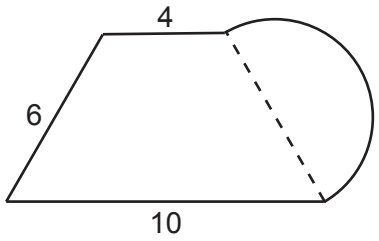
(1) -1 and -3
(2) -1 and 3
(3) 1 and -3
(4) 1 and 3

27 The total score in a football game was 72 points. The winning team scored 12 points more than the losing team. How many points did the winning team score?

(1) 30
(2) 42
(3) 54
(4) 60

Use this space for computations.

28 What is the perimeter of the figure shown below, which consists of an isosceles trapezoid and a semicircle?



(1) $20 + 3\pi$

(2) $20 + 6\pi$

(3) $26 + 3\pi$

(4) $26 + 6\pi$

29 The probability that it will rain tomorrow is $\frac{1}{2}$. The probability that our team will win tomorrow's basketball game is $\frac{3}{5}$. Which expression represents the probability that it will rain and that our team will *not* win the game?

(1) $\frac{1}{2} + \frac{3}{5}$

(2) $\frac{1}{2} + \frac{2}{5}$

(3) $\frac{1}{2} \times \frac{3}{5}$

(4) $\frac{1}{2} \times \frac{2}{5}$

30 The formula for the volume of a pyramid is $V = \frac{1}{3}Bh$. What is h expressed in terms of B and V?

(1) $h = \frac{1}{3}VB$

(2) $h = \frac{V}{3B}$

(3) $h = \frac{3V}{B}$

(4) $h = 3VB$

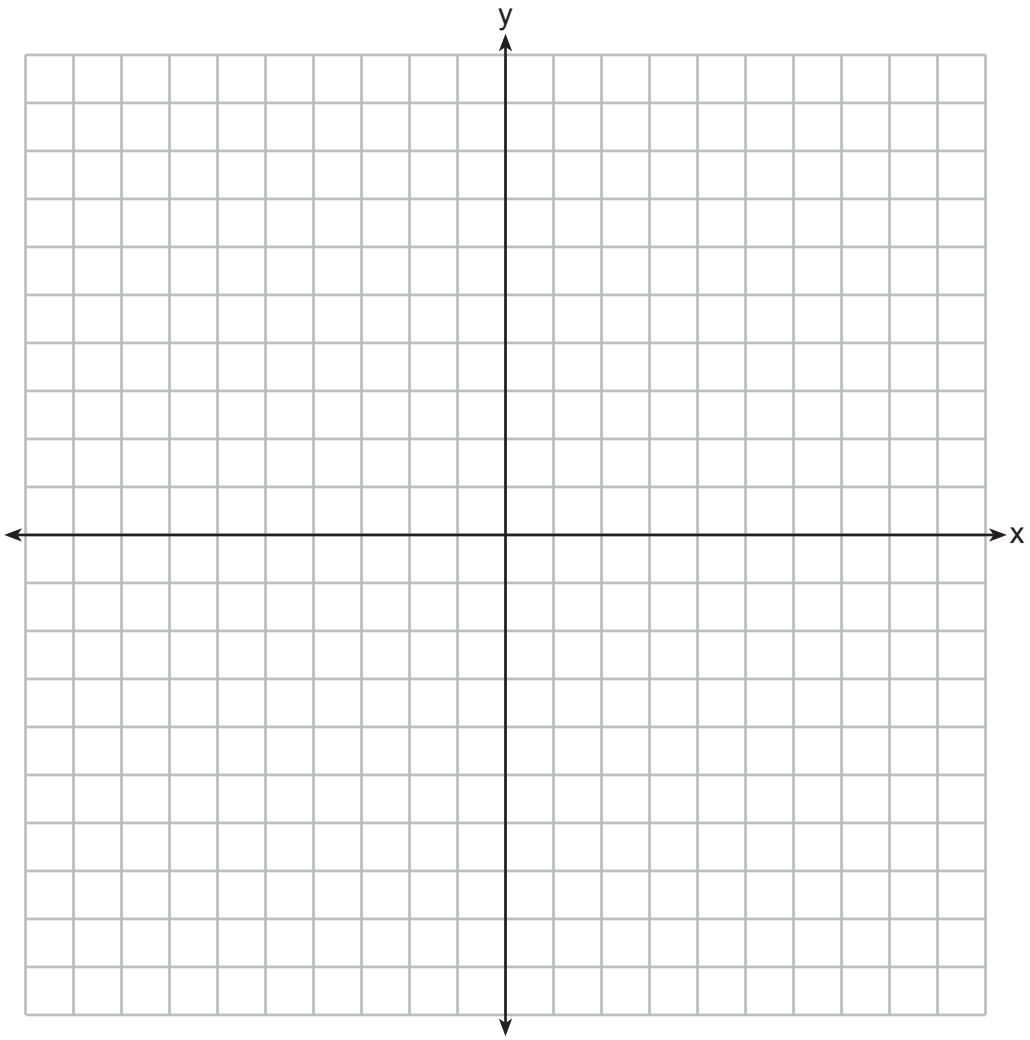
Part II

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 State the value of the expression $\frac{(4.1 \times 10^2)(2.4 \times 10^3)}{(1.5 \times 10^7)}$ in scientific notation.

32 Express the product of $\frac{x+2}{2}$ and $\frac{4x+20}{x^2+6x+8}$ in simplest form.

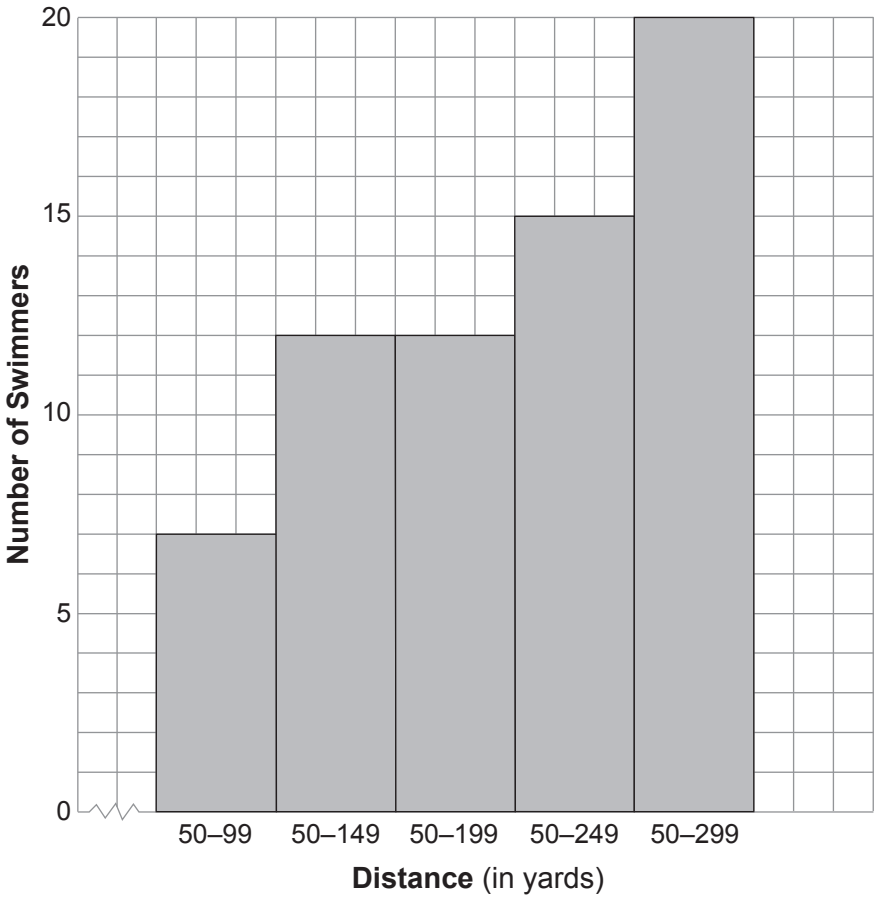
33 On the set of axes below, graph $y = 3^x$ over the interval $-1 \leq x \leq 2$.



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 following cumulative frequency histogram shows the distances swimmers completed in a recent swim test.



Based on the cumulative frequency histogram, determine the number of swimmers who swam between 200 and 249 yards.

Determine the number of swimmers who swam between 150 and 199 yards.

Determine the number of swimmers who took the swim test.

35 Ashley measured the dimensions of a rectangular prism to be 6 cm by 10 cm by 1.5 cm. The actual dimensions are 5.9 cm by 10.3 cm by 1.7 cm. Determine the relative error, to the *nearest thousandth*, in calculating the volume of the prism.

36 Solve the following system of equations algebraically for *all* values of x and y.

$$y = x^2 + 2x - 8$$
$$y = 2x + 1$$

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

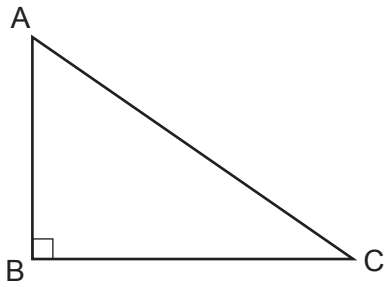
37 A company is running a contest and offering a first, second, and third prize. First prize is a choice of a car or $15,000 cash. Second prize is a choice of a motorbike, a trip to New York City, or $2,000 cash. Third prize is a choice of a television or $500 cash.

If each prize is equally likely to be selected, list the sample space or draw a tree diagram of *all* possible different outcomes of first, second, and third prizes.

Determine the number of ways that *all* three prizes selected could be cash.

Determine the number of ways that *none* of the three prizes selected could be cash.

38 In right triangle ABC shown below, $AC = 29$ inches, $AB = 17$ inches, and $m\angle ABC = 90$. Find the number of degrees in the measure of angle BAC, to the *nearest degree*.

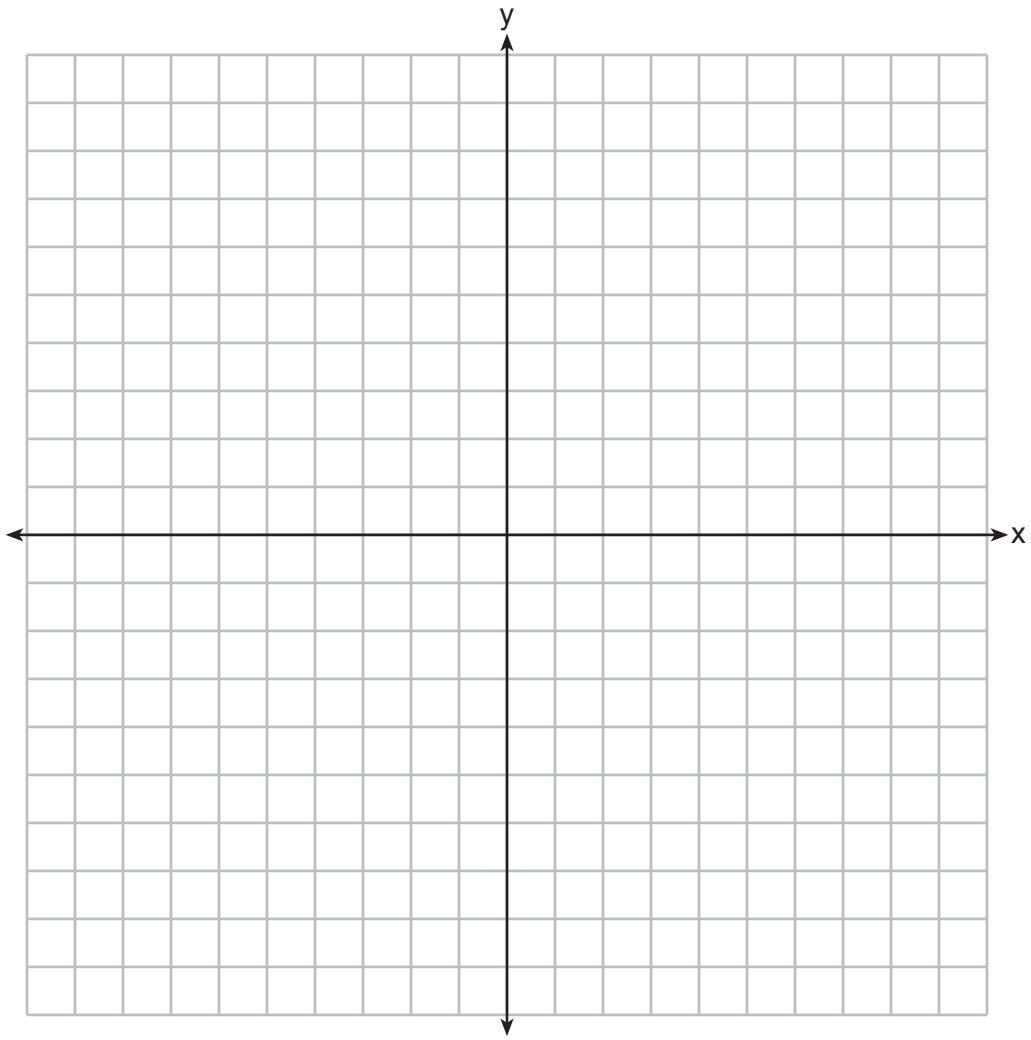


Find the length of $\overline{BC}$ to the *nearest inch*.

39 On the set of axes below, graph the following system of inequalities.

$$y + x \geq 3$$
$$5x - 2y > 10$$

State the coordinates of *one* point that satisfies $y + x \geq 3$, but does *not* satisfy $5x - 2y > 10$.



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

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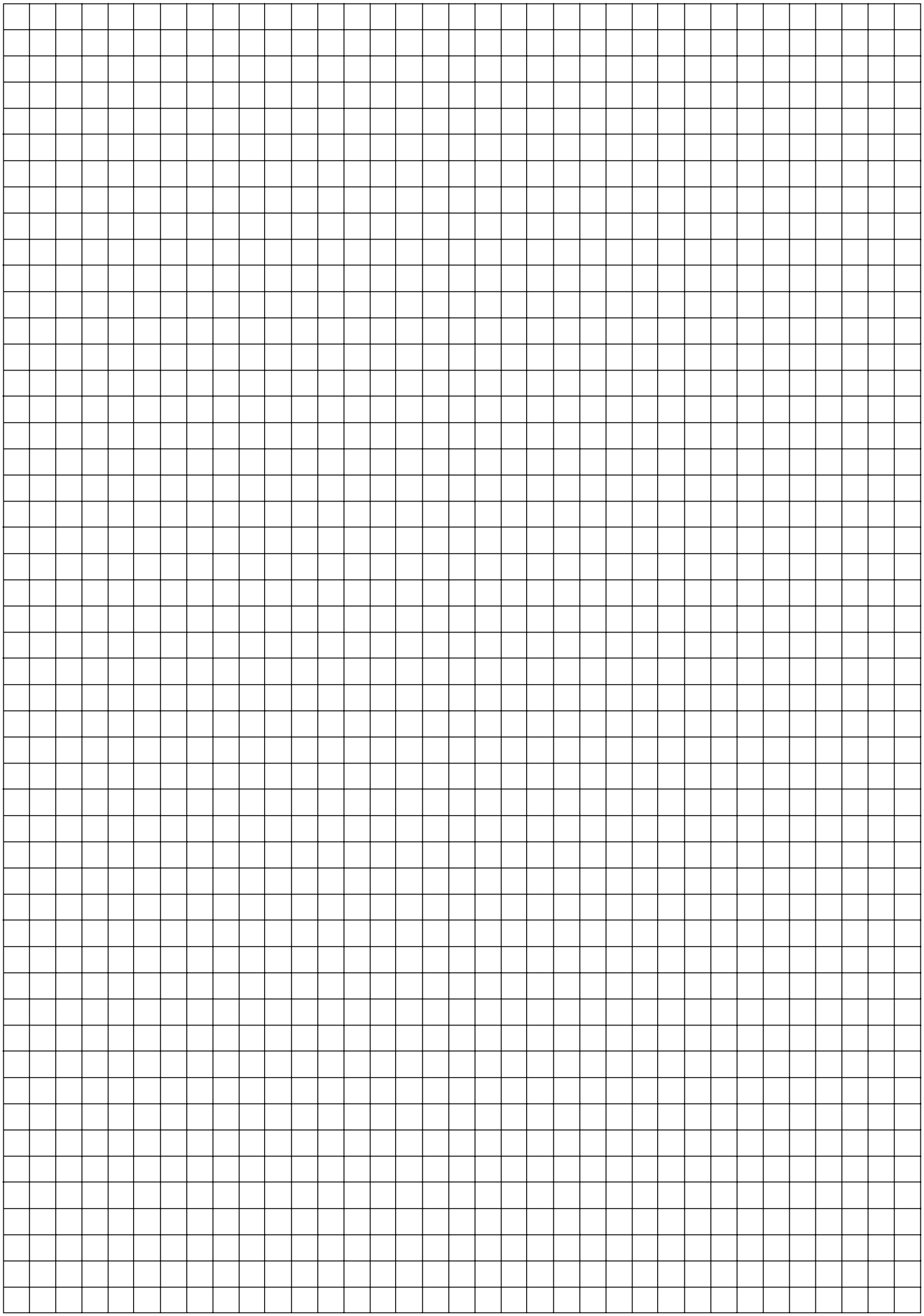

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Reference Sheet

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

Tear Here

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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*.

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. 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 stray marks on the answer sheet that might later interfere with the accuracy of the scanning.

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. 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/apda/ on Thursday, August 16, 2012. 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.

Part I

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

1 . . . . . 3	11 . . . . . 3	21 . . . . . 3 . . . . .
2 . . . . . 3	12 . . . . . 2	22 . . . . . 4 . . . . .
3 . . . . . 3	13 . . . . . 3	23 . . . . . 2 . . . . .
4 . . . . . 1	14 . . . . . 4	24 . . . . . 4 . . . . .
5 . . . . . 2	15 . . . . . 2	25 . . . . . 3 . . . . .
6 . . . . . 4	16 . . . . . 4	26 . . . . . 3 . . . . .
7 . . . . . 3	17 . . . . . 4	27 . . . . . 2 . . . . .
8 . . . . . 3	18 . . . . . 2	28 . . . . . 1 . . . . .
9 . . . . . 1	19 . . . . . 3	29 . . . . . 4 . . . . .
10 . . . . . 4	20 . . . . . 1	30 . . . . . 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 at: http://www.p12.nysed.gov/apda/ 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.

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]** 6.56×10^{-2}.

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

or

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

[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]** $\frac{2(x+5)}{x+4}$ or $\frac{2x+10}{x+4}$, and appropriate work is shown.

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

or

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

or

[1] The expression is factored correctly, but no further correct work is shown.

or

[1] $\frac{2(x+5)}{x+4}$ or $\frac{2x+10}{x+4}$, 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.

(33) **[2]** A correct graph is drawn over the given interval.

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

or

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

[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]** All three answers (3, 0, and 20) are correct.

[2] Only two answers are correct.

[1] One conceptual error is made, such as interpreting the graph as a frequency histogram.

or

[1] Only one answer is correct.

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

[2] Appropriate work is shown to find $\frac{103.309 - 90}{103.309}$ or an equivalent expression, but no further correct work is shown.

or

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

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as dividing by 90.

or

[1] Appropriate work is shown to find 90 and 103.309, but no further correct work is shown.

or

[1] 0.129, 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]** $x = -3$, $y = -5$ and $x = 3$, $y = 7$ or $(-3,-5)$ and $(3,7)$, and appropriate algebraic work is shown.

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

or

[2] Appropriate work is shown, but only $(-3,-5)$ or $(3,7)$ is found.

or

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

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

or

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

or

[1] $x = -3$, $y = -5$ and $x = 3$, $y = 7$ or $(-3,-5)$ and $(3,7)$, but a method other than algebraic is used.

or

[1] $x^2 - 9 = 0$ or $x^2 = 9$ is written, but no further correct work is shown.

or

[1] $x = -3$, $y = -5$ and $x = 3$, $y = 7$ or $(-3,-5)$ and $(3,7)$, 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 4 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(37) **[4]** A correct tree diagram or sample space is shown, and 1 and 2 are stated.

[3] Appropriate work is shown, but one computational error is made, but two appropriate numbers of outcomes are stated.

or

[3] A correct tree diagram or sample space is shown, but only 1 or 2 is stated.

or

[3] A correct tree diagram or sample space is shown, but the appropriate numbers of outcomes are stated as probabilities.

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

or

[2] Appropriate work is shown, but one conceptual error is made, but two appropriate numbers of outcomes are stated.

or

[2] A correct tree diagram or sample space is shown, but no further correct work is shown.

or

[2] An incomplete tree diagram or sample space that shows an understanding of the problem is written, but two appropriate numbers of outcomes are stated.

[1] Appropriate work is shown, but one conceptual error and one computational error are made, but two appropriate numbers of outcomes are stated.

or

[1] An incorrect tree diagram or sample space that shows an understanding of the problem is written, but only one appropriate number of outcomes is stated.

or

[1] 1 and 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]** 54 and 23, and appropriate work is shown.

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

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

or

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

or

[2] Appropriate work is shown to find 54 or 23, but no further correct work is shown.

or

[2] $\text{Cos}\, x = \frac{17}{\mathbf{29}}$ and $17^2 + BC^2 = 29^2$ are 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, but appropriate solutions are found.

or

[1] $\text{Cos}\, x = \frac{17}{\mathbf{29}}$ or $17^2 + BC^2 = 29^2$ is written, but no further correct work is shown.*

or

[1] 54 and 23, 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.

*Corrected – 8/17/12

(39) **[4]** Both inequalities are graphed and shaded correctly, and at least one is labeled, and the coordinates of a point that satisfies $y + x \geq 3$, but not $5x - 2y > 10$ are stated.

[3] Appropriate work is shown, but one graphing error is made, such as drawing a solid line for $5x - 2y > 10$ or shading incorrectly, but appropriate coordinates are stated.

or

[3] Both inequalities are graphed and shaded correctly, but neither graph is labeled, but appropriate coordinates are stated.

or

[3] Both inequalities are graphed and shaded correctly, and at least one is labeled, but coordinates of a point are not stated or are stated incorrectly.

[2] Appropriate work is shown, but two or more graphing or labeling errors are made, but appropriate coordinates are stated.

or

[2] Both inequalities are graphed and shaded correctly, but neither is labeled, and the coordinates of a point are not stated or are stated incorrectly.

or

[2] Appropriate work is shown, but one conceptual error is made, such as graphing the lines $y + x = 3$ and $5x - 2y = 10$ and stating the coordinates of a point on $y + x = 3$ but not on $5x - 2y = 10$.

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 two or more graphing or labeling errors are made and appropriate coordinates are not stated, or are stated incorrectly.

or

[1] Appropriate work is shown, but one conceptual error and one graphing or labeling error are made, but appropriate coordinates are stated.

or

[1] Only the lines $y + x = 3$ and $5x - 2y = 10$ are graphed, and at least one is labeled.

or

[1] A point that satisfies $y + x \geq 3$, but not $5x - 2y > 10$ 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	9, 20, 31
Algebra	3, 5, 6, 7, 11, 12, 15, 17, 19, 21, 22, 23, 25, 26, 27, 30, 32, 36, 38
Geometry	1, 14, 16, 18, 24, 28, 33, 39
Measurement	2, 10, 35
Statistics and Probability	4, 8, 13, 29, 34, 37

Regents Examination in Integrated Algebra

August 2012

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

The *Chart for Determining the Final Examination Score for the August 2012 Regents Examination in Integrated Algebra* will be posted on the Department's web site at: http://www.p12.nysed.gov/apda/ on Thursday, August 16, 2012. 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 – August 2012

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	53
86	98	64	84	42	75	20	51
85	97	63	84	41	75	19	49
84	96	62	83	40	74	18	48
83	95	61	83	39	73	17	46
82	94	60	83	38	73	16	44
81	93	59	82	37	72	15	42
80	92	58	82	36	71	14	40
79	91	57	82	35	70	13	38
78	90	56	81	34	69	12	35
77	90	55	81	33	68	11	33
76	89	54	81	32	67	10	31
75	88	53	80	31	66	9	28
74	88	52	80	30	65	8	26
73	87	51	80	29	64	7	23
72	87	50	79	28	63	6	20
71	87	49	79	27	62	5	17
70	86	48	78	26	60	4	14
69	86	47	78	25	59	3	11
68	86	46	78	24	57	2	7
67	86	45	77	23	56	1	4
66	85	44	77	22	54	0	0

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

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.